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ABSTRACT

The purpose of this paper is to review and synthesize what is known about occupational adaptability and to propose a heuristic model of the process(es) of adaptation in work. Following an introductory chapter, three chapters contain a review of literature that draws from many disciplines and presents an overview of human adaptation in general, as well as in the context of work. The review addresses three questions: What is meant by adaptability? What are the major factors involved in adaptation? What behaviors and styles are used in adapting? Chapter 5 presents the model for occupational adaptation, which is intended as a heuristic framework with which to examine elements and forces in peoples' work lives and how individuals go about dealing with adaptive demands involved with working. The model also addresses adaptive options of bringing about changes in jobs and work environments, preventing or avoiding the effects of unwanted changes, and making moves from one job or career to another. Chapter 6 discusses implications of the model and offers suggestions for increasing and refining adaptation in work and life. Chapter 7 reviews implications for individuals, work organizations, and society in general improving the occupational adaptability of individuals. Examples of transferable skills lists are appended. (LRA)

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THE WORKER AS PROTEUS:

UNDERSTANDING OCCUPATIONAL ADAPTABILITY

Constance R. Faddis

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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4

FOREWORD

Occupational adaptability is a concept often discussed but little studied or understood. This lack of knowledge is not surprising since, as the author discovered, to understand adaptation in the context of work one must address a wide base of theory and research that spans many contexts and disciplines. The review and synthesis of literature presents a multidisciplinary perspective of human behavior and adaptation. The document goes one step beyond the question, "What does the literature tell us about occupational adaptability?" and challenges the reader with a descriptive model of adaptation that other researchers may want to debate and study.

This document was prepared as part of a programmatic research effort on transferable skills and occupational adaptability conducted at the National Center for Research in Vocational Education, and sponsored by the National Institute of Education. The program area is concerned with the pervasive trend of occupational change in this country, and the staff have conducted a number of studies exploring critical issues of how individuals prepare for, select, and change occupations and careers. This document fills a significant gap in our understanding of occupational adaptation and, we hope, may stimulate others to explore its implications.

The National Center wishes to express its appreciation for the reviewers, formal and informal, whose comments and suggestions have aided in the completion of this document. They are: Robert Caplan, Nevin Robbins, Everett Rogers, Decker Walker, Jerry Walker, and Allen Wiant. The helpful advice of Bob Stump, program officer from the National Institute of Education, and of Frank Pratzner, Associate Director of Research at the National Center, is acknowledged. In addition, the invaluable aid of Robert Abram in securing the reviewers is acknowledged. Finally, we wish to thank the Advisory Panel, consultants, and staff of the Transferable Skills and Occupational Adaptability Program for guidance and support.

The report was prepared under the general supervision of Dr. William L. Ashley, program director of the Transferable Skills and Occupational Adaptability Program at the National Center.

Robert E. Taylor
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PREFACE

When the author initiated the literature review upon which this paper (and the model it proposes) is partly based, the intention was simple: locate and abstract what was known about occupational adaptability. As the review progressed, however, the author quickly came to realize that human adaptation cannot adequately be understood within the boundaries of any one context. Moreover, it was increasingly apparent that little literature (theoretical or empirical) explicitly addressed adaptation in the context of work. It was logical—necessary, in fact—to expand the search for knowledge and ideas to the range of disciplines concerned with human behavior and adaptation: biology, physical and cultural anthropology, sociology, and the psychologies, as well as research and theories of work. As a result, what started out to be a concise, thirty-page synthesis on occupational adaptability grew into the Incredible Bulk you have in hand. (It has been facetiously suggested that the title be changed from "The Worker as Proteus" to "The Reader as Ulysses.")

Fortunately, it is not necessary to read the entire paper to grasp the major concepts. The material divides readily into three segments, consisting essentially of the review of literature (Chapters II, III, and IV), the model of occupational adaptation (Chapter V), and explication and implications of the model (Chapters VI and VII). Each of the chapters concludes with a summary, and a reader interested primarily in the major concepts should be able to grasp them by reading the chapter summaries and Chapter V (presentation of the model). An Executive Summary is included for the very hurried, though an understanding of the model will probably require reading Chapter V as well. Finally, students of human adaptation, regardless of context of interest, may find value in the review of the literature itself, both as a comprehensive and eclectic synthesis of concepts or findings on adaptability, and as a source for identifying additional resources.

It is important to note that the model of occupational adaptation is based upon—but does not flow directly from—the literature reviewed. The paucity of specific research on *occupational* adaptability, especially in terms of mid-level theory bridging the abstract philosophical notions and narrow empirical studies of work, demanded a creative conceptualization. While construction of a model was not originally a purpose of the paper, the need to organize the massive amount of information emerging from the literature and to relate it to the research needs of the Transferable Skills and Occupational Adaptability Program (of which the paper is a product) made the development of a descriptive model a logical activity. The staff, consultants, and advisory panel of the Program were instrumental in identifying, deriving, and refining many of the ideas incorporated.

It is hoped that the literature review and the model presented here will prove useful in conducting future, empirical research on occupational adaptability and its roles in individual employability and work/life adaptation. Others who may find it of interest may include researchers in general human adaptability, educators, job trainers, curriculum developers, organizational designers, counselors, and educational as well as organizational policy makers.

TABLE OF CONTENTS

Page

FOREWORD iii

PREFACE v

CHAPTER I
INTRODUCTION 1

CHAPTER II
WHAT IS ADAPTATION? 5
Work and Adaptation 6
Summary: The Concept of Adaptation 8

CHAPTER III
WHAT FACTORS ARE INVOLVED IN ADAPTATION? 9
General Human Adaptation Theories 9
Adaptation and Theories of Work 16
Adaptation and Theories of Occupational Choice and Career Development 38
Research on Work-related Competencies 45
Understanding Factors in Occupational Adaptability 55
Summary: Factors in Adaptation 66

CHAPTER IV
WHAT BEHAVIORS AND STYLES ARE USED IN ADAPTING? 69
Individual Adaptive Behaviors and Styles in General Contexts 72
Individual Adaptive Behaviors and Styles in Work 84
Adaptive Behaviors and Styles of Worker Groups 92
Organizational Adaptive Strategies and Behaviors 96
Summary of Behaviors and Styles Used in Adapting 103

CHAPTER V
OCCUPATIONAL ADAPTATION: A DESCRIPTIVE MODEL 105
Modeling Adaptation and Adaptability in Work 105
Summary 135

CHAPTER VI
IMPROVING INDIVIDUAL OCCUPATIONAL ADAPTABILITY 139
The "Maximally Adaptive Person": A Profile 139
Paths for Improving Occupational Adaptability 141
Limitations on Improving Occupational Adaptability 147
Summary: Improving Occupational Adaptation 147

(continued)

TABLE OF CONTENTS continued

CHAPTER VII
IMPLICATIONS OF IMPROVING OCCUPATIONAL ADAPTABILITY 149
Advantages for Individuals 149
Advantages for Work Organizations 150
Advantages for Society at Large 152
Summary of Implications and Directions for Further Research 154

CHAPTER VIII
EXECUTIVE SUMMARY 156

BIBLIOGRAPHY 159

APPENDIX A. EXAMPLES OF TRANSFERABLE SKILLS LISTS 177

LIST OF FIGURES AND TABLES

Page

Figures

1. Profile of factors in occupational adaptation 56
2. Levels of proficiency and fundamentality in potential skill transferability 60
3. Adaptive skills and other components of positive adaptive behavior 61
4. General components involved in adaptive behavior 70
5. Styles of adaptation 83
6. Outline of model of occupational adaptation 106
7. Person-environment incongruity as a stimulus of adaptation 109
8. An example of stimulus perception and adaptive arousal 113
9. "Black Box": Two possible adaptive response selection procedures 115
10. Styles of occupational adaptation and adaptive flexibility 119
11. Ideal repertoire of occupationally adaptive behaviors available to "maximally adaptive persons" 142

Tables

1. Selected Examples of Occupationally Transferable Skills 49
2. List of Probable Reactive, Active, and Mobile Behaviors 123

CHAPTER I

INTRODUCTION

A great deal has been said and written in the advanced industrialized societies about the inadequacies of work and working. Overeducation and a slowing rate of economic growth in the United States have been blamed for "increasing numbers of highly qualified workers . . . unable to find jobs that require their skills and training" (O'Toole, 1977, p. 26). A consequence is that people with marginal levels of occupation-related competencies (such as "functional illiterates" or persons reentering the labor market after a long absence) are displaced—"knocked off the bottom of the occupational ladder"—by overqualified workers taking the available jobs. The situation is aggravated by recent increases in number of people seeking full- or part-time employment, especially among women, teenagers, minority groups, and the retired.

The patterns of work itself are changing. Changes in technology and the economy affect not only the content of jobs, but bring about the eradication of some and creation of others. Occupational mobility, whether by choice or necessity, has become a significant feature of American work life. According to Raskin (1979), the worker of the 1980s "will have to adjust to the probability of two or three basic changes in job, or even career, in a work life that will last longer than those of earlier generations" (p. 24).

Add to this situation the social and other forces affecting people's expectations about work, and it comes as no surprise that there are large gaps between what work "should" be and what it apparently, for many people, really is. There are "indications that the willingness to work, at least under current conditions, is declining" (Best, 1973, p. 45). According to Dunnette (1973), in *Work and Nonwork in the Year 2001,*

> Concern about what work and nonwork mean in our personal lives has never been greater than it is today, due perhaps to the increasingly transient qualities of modern life: the impermanence of material goods, our geographic mobility [which may, with the energy crisis, soon come to a grinding halt], the fleeting quality of many human interactions, and the increasing change in institutional and organizational boundaries. (p. v)

It is not an aim of this paper to try to predict what directions work attitudes will take in the future, though concepts of work in the year 2001 will undoubtedly be different from those with us now. Nor is it reasonable to try to "outguess" which of the possible "economic scenarios" (e.g., things will get better, things will get worse, things will stay about the same) or labor market patterns may characterize the next few decades. The current tempo of *change*—in work attitudes, social priorities, states of local and national economies, rates of occupational mobility, and availability of jobs—has so far given little evidence of declining. There is apparently little in the way of current systematic efforts aimed at slowing the rates of change or at making structural accommodations in work or other areas of life to reduce the adaptive demands on people. Even if there were, broad-based institutional responses in inventing and making adaptive solutions available to people are notorious for lagging behind people's needs. The importance for individuals at all ages and stages of life to learn to adapt effectively—find or develop their own solutions to adaptive problems in work as well as in life—becomes self-evident: "Whatever the future shape of this society, there remains little doubt that greater flexibility will become a necessity for virtually every adult American. ... Occupational adaptability thus becomes a major social objective..." (Bonham, 1979, p. 57).

What is meant by occupational adaptability? Obviously, some people are more adept than others are at dealing with work-related adaptive demands (such as locating new jobs or careers and making moves between them, becoming acclimated to work situations, finding ways to avoid problems or to improve situations in work, and so forth). To what extent is adaptability related to some intrinsic personal characteristic(s)? To what extent is it related to some set of behaviors? If the latter, what do more adaptable people do that less adaptable people don't do, or don't do as well? What kinds of important environmental factors promote or restrict effective adaptation in work situations?

This paper is an outgrowth of programmatic research on the content, importance, and teachability of occupational adaptability and transferable skills, conducted by the Transferable Skills and Occupational Adaptability Program at the National Center for Research in Vocational Education, under the auspices of the National Institute of Education. The paper is intended to aid in a better understanding of the processes and complexities of human adaptive behaviors in work life, and to offer a conceptual framework from which to begin to look at the needs of workers beyond the acquisition of job-specific skills. The emphasis of the paper is on the individual, in that individuals are the basic unit by which societies (and work organizations) meet their needs for growth and survival. The need for improved institutional approaches to aid in human adaptation—particularly in helping individuals to discover, redirect, or improve their adaptive responses in their work lives—is a particular interest.

The paper consists basically of three parts: (a) a review and synthesis of literature, (b) a working model of the components and processes involved in individual occupational adaptation, and (c) its implications.

The review of the literature contains a purposeful selection of research and theory that contribute to understanding of adaptation, rather than prediction of it. As discussed in the Preface, the review draws from many disciplines, and is an eclectic, comprehensive overview of human adaptation in general, as well as in the context of work. The review is arranged to address three central questions about what is known and not known about adaptation:

1. What is meant by adaptability? (Chapter II)
2. What are the major factors involved in adaptation? (Chapter III)
3. What behaviors and styles are used in adapting? (Chapter IV)

The bulk of the pertinent literature consists of opinion and theory; and, while some studies were found that examine certain aspects of adaptation in work, no data base—or even mid-level theory—addresses the broad range of adaptive responses used by individuals in the contemporary work world. As a result, the model of occupational adaptation that emerges is a conceptual one, and gaps between its conceptualizations and the extant literature have, of necessity, been bridged by intuition and the opinions of the Program staff and its consultants.

The model of occupational adaptation (Chapter V) is the heart of the paper, and is intended as a heuristic framework with which to examine elements and forces in people's work lives, and how individuals go about dealing with adaptive demands involved with working. The concept of occupational adaptation used in this paper and reflected in the model steps outside commonly accepted notions, in that the adaptive options considered here go beyond how people learn to "fit in" or "make the best of things" in their jobs. In this sense, the use of Proteus—a god in Greek mythology who was capable of assuming many shapes—in the title of the paper is misleading. The model also addresses adaptive options of bringing about changes in jobs and work environments (that is, adapting the environment to oneself), preventing or avoiding the effects of unwanted changes, and, where necessary or desirable, making moves from one job or career to another (or in and out of work itself). Proteus, who could only change *himself,* lacked the resources and resourcefulness to be "maximally" occupationally adaptive!

It is hoped that this paper will contribute to what is known about occupational adaptability, and that it will provide a basis from which future efforts may address what must still be learned in order to understand—and ultimately to educate for—better occupational adaptability of individuals.

CHAPTER II

WHAT IS ADAPTATION?

> Living creatures . . . constantly strive for an adaptive compromise that not only preserves them as they are, but also permits them to grow, to increase both in their size and their autonomy. (White, 1974, p. 53)

The theme of survival and growth is central to most ideas about adaptation, regardless of the academic discipline from which it is viewed, or the real-world context in which it is studied. Survival (or homeostasis, or maintaining an equilibrium) is the tendency of a system, animate or inanimate, "to maintain itself as intact as possible and . . . [display] more or less extensive rebalancing processes when injured or deformed" (White, ibid.).

Beyond the necessity of survival is that of growth. In biological theory, adaptation means reproductive success of a *population*, and it is concerned with the genetic development of species or subspecies in an evolutionary sense. Human beings, however, "adapt to survive both as individuals and as members of the species" (Grinker, 1974, p. xii). Phillips (1968) uses the term human adaptation to mean "a person's response to the complexities of living in society" (p. 1). Because human existence on the personal as well as species level involves societal as well as biological imperatives, it is important

> to look at the human as an animal who is as fully subject to nature's laws and social requirements as any other animal and is no more capable of changing them; we also need to look at man [sic] not merely as an animal, but also as a symbolizing creature capable of using his culture to cope with the stresses of environmental change. (Grinker, 1974, p. xv).

What are these "stresses of environmental change"? All adaptations, biological or societal, require stimuli, or what Grinker calls a "releasing mechanism." The literature considers the stimuli for adaptation under such labels as stress, threat, discomfort, crisis, challenge, change, and transition. In biological terms, the "reproductive success of a population involves all phases of the life cycle of the individual organism" (Hamburg, Coelho, & Adams, 1974, p. 403). Lazarus, Averill, and Opton considered adaptation to be

> a response to a perception of some threatening condition and of potential avenues of solution or mastery. In short, they are designed to actualize some promise or to take the organism out of some jeopardy as judged or cognitively appraised by the individual. (1974, p. 259)

Psychologists have developed the concept of "crisis" to understand the "threatening conditions" or "jeopardy" that initiates an adaptive response. Erikson (1959) discussed what he called "developmental crises," which deal with the various stages of personality development, and Caplan (1964) examined "situational crises," which deal with the need for adaptation in terms of situational requirements. Some examples of common human situations that present stress or challenges include:

> (1) the attainment of coordination between mother and infant; (2) the initial transition to an out-of-home facility (school, day-care center); (3) puberty; (4) major educational transitions; (5) the first serious occupational commitment;

> (6) marriage; (7) the first pregnancy; (8) geographic moves; (9) childrens' milestones; (10) economic setbacks; and (11) retirement. (Hamburg et al., 1974, p. 424)

In another school of thought, adaptation is stimulated by hedonism. This principle, which can be traced back as far as the Greek philosophers, assumes that "in every situation people select from alternative possibilities the course of action which they think will maximize their pleasure and minimize their pain" (Vroom, 1964, p. 9). Behavioral psychologists and some theorists in occupational psychology (Kuder, 1946; Vroom, 1964; and others) modernized the principle and linked it with concepts of motivation, needs, and attitudes as the stimuli of adaptive behaviors.

Survival and growth, then, can mean different things and present different stimuli for populations or individuals, or in biological or societal contexts, but the imperative to adapt is universal. The adaptive equipment of the human organism, though, is

> . . . mostly very old. In addition to obvious physical characteristics, some of our emotional response tendencies and learning orientations are probably a part of that biological equipment, built into the organism because they worked well in adaptation over many thousands and even millions of years. There has been precious little time for change in that equipment since the industrial revolution began two centuries ago, and yet the circumstances of our present life are largely a product of that revolution. We do not know how well we are suited to the world in which we now live. . . . (Hamburg et al., 1974, p. 407)

One of the most important human activities, work, has been profoundly affected by the industrial revolution, and as was discussed in the introduction to this paper, is an area of intense flux even now. What, then, do survival and growth mean in the context of work today? What stimuli require adaptation to take place in the context of work? What is occupational adaptability?

Work and Adaptation

Employment is a relatively new concept and social institution (Heneman, 1973, p. 24), at least on a large scale. Until the industrial revolution, the majority of human beings who worked were involved in agriculture, and were, in effect, working for themselves most of the time. Work, though, has become an extremely variable concept:

> Concepts of work vary with time, place, culture, and society. . . . Not only is work culturally defined, but, within any one society, concepts of work vary in terms of objectives, effort, perspective (such as employer versus employee), reward systems, and sets of beliefs, perceptions, and values. Indeed, even within subgroups in one society there are substantial individual differences in the meanings or concepts of work. (Ibid., pp. 12-13)

The roles and importance of work vis-à-vis nonwork are also in flux. Nevertheless, it is expected that more than half of the current American population will, at some time in their lives, be directly involved in some form of what is most generally considered work: "those activities normally performed for pay" (Bryan, 1973, p. 1).

What do survival and growth mean in this variable context we call work? Salamone and Gould (1974) evaluated survival and growth needs in work in terms of the three kinds of incentives in it: "*economic* incentives (which provide for the physical needs and material luxuries of an individual);

aesthetic incentives (which provide pleasure and distraction); and *symbolic* incentives (which contribute to 'self-respect' and 'ego-expansion')" (p. 7). Triandis (1973) postulated a number of motivations for working:

> People work not only for money but also because of tradition, duty, obligation, beliefs in magic, social ambition, position, and vanity. They work to obtain power, to validate their self-concept, and to achieve intellectual or aesthetic satisfaction. (p. 37)

In many instances, as Heneman points out, work can be an end in itself, "providing challenge, satisfaction, and a sense of achievement for the worker as well as producing goods and services for society" (1973, p. 22).

In another point of view, work is seen not only as the economic role of human beings in their society, it is the primary determinant of the human condition (Smith, 1965). According to Smith, work pervades almost all other areas of life, occupying much more of people's time than food-related and reproductive activities. Education, religion, recreation, and warfare all influence human behavior, but work is the strongest influence. And work is its own reward; that is, it is self-motivating. Smith's theory, which he calls biosocial theory, emphasizes

> . . . the instrumentality of work for shaping and defining man [sic]. Different work environments are determined by the adaptive capabilities of different individuals. (Heneman, 1973, pp. 26-27)

What stimulates the need for the adaptive capabilities (or competencies) in work about which both Heneman and Smith were concerned? Hackman and Suttle (1977) proposed that the major stimulus to adaptation in work is change:

> . . . *change* must be central to any account of the person's relationship to a job. An understanding of this relationship at any particular time must be based on knowledge of the changes that typically occur in a person's life and psychology as a passage through the life cycle. Career lines are not forged absolutely through the process of simply joining an organization or selecting an occupation. Rather, the nuances of membership, participation, and profession are always in various stages of revision and negotiation. People change, as do organizations. (p. 33)

Even when an *actual change* has not occurred or is not occurring, adaptive responses may be necessary or desirable. Other adaptation may take place when the *threat of change* is perceived, and stability is valued more highly. In another case, the opportunity of *creating a change* for one's own advantage may arise, and stimulate an adaptive response.

The possible loci of change (or of threat of change, or of opportunity of creating change) are as varied as the factors involved in the context of work: the individual's characteristics and personal situation; the culture's or society's concept of work; the local or national economy, or the state of technology; or just about any factor involved in a job, a work organization, other areas of the person's life, or in the milieu of the organization. In addition, a number of work-related transitions typically demand adaptive responses: (a) initial entry into the paid labor force; (b) reentry into the paid labor force after a nonworking hiatus; (c) progression within a career; (d) lateral transfer, job change, and career change; and (e) post-retirement jobs or careers (Ashley, Laitman-Ashley, & Faddis, 1979). These are not the only transitions in work that stimulate adaptation, but they are some of the major ones.

It is important to recognize that not only the stimuli of adaptation, but the forms adaptation takes and the effects it has, exist in a person's *whole life,* not one corner of it, and people's adaptations in work cannot be understood apart from their adaptations—and use of adaptive competencies—in other areas of their lives. Heneman cautioned that "the concept of economic man [sic] —like the concept of psychological man, sociological man, or developing man—is grossly inadequate for an understanding of work" (1973, p. 20). In addition, adaptation is an ongoing process, and "adaptation to an immediate situation may impede adaptation to a situation that is subsequently encountered" (Scott, 1966, p. 395).

Harvey (1966) defined general human adaptability as:

> . . . the capacity to behave in ways maximally consonant with the attainment of ends of goals. Adaptable behavior thus becomes synonymous with appropriate behavior, "appropriate" defined as the degree to which a particular act facilitates or runs counter to the attainment of a sought end. (p. 6)

As a first cut at trying to define adaptability in work, then, we may paraphrase, and say that *occupational adaptability is a person's capacity to behave in regard to the work environment in ways maximally consonant with the attainment of his or her personal work and life goals*—however the person defines his or her own "preservation or growth" in the context of work.

Summary: The Concept of Adaptation

In the broadest sense, adaptation is the response of an organism to conditions affecting its actual or potential survival or growth. All adaptive responses appear to require a stimulus, which may take the form of situational or developmental (transitional) crises. In other instances, the stimuli may be the perception of actual or potential threats, or the perception of opportunities to create or take advantage of changes (i.e., change as a challenge, rather than a threat). *Change, or the possibility of change, seems to be central to any adaptive stimulus.*

Adaptation in work is not so easily defined as "survival or growth," because ideas of what constitute survival or growth in the context of work vary across individuals, cultures, and societies. Change, again, is seen as the central stimulus, and takes the form of situational change (e.g., in the individual, in his or her general situation, and/or in his or her work situation), transitional change (e.g., moving into a new job, changing careers, moving up the career ladder), or the threat or challenge presented by the possibility of such a change. What a person does when facing such a change or possibility of change is the *adaptive response,* and the form it may take and the effects it has can best be understood as part of the person's whole life, not only how he or she responds in the context of work.

Further understanding is needed about which factors interact (and how they interact) in situations involving adaptive responses, as well as how people go about responding. The next section will address the first question—What factors are involved in adaptation?—and will examine models and theories about adaptation in general (and in work in particular) that attempt to structure the pertinent factors and explain their interrelationships.

CHAPTER III

WHAT FACTORS ARE INVOLVED IN ADAPTATION?

> Human experiences can be seen as a continuous stream of events in which the individual seeks to gain control over the immediate environment. Simultaneously, he [sic] is progressively being incorporated by that very environment. Thus, a dialectic process exists between the individual and the environment. Each is contained within the other, each is affected by the other, and the interaction takes place through the individual's lifetime. (Hackman & Suttle, 1977, p. 37)

Most theorists agree that adaptation* involves interaction between a person and his or her environment. This theme provides the main structure by which models of adaptation generally assemble and examine the potent factors and interrelationships. This section of the literature review will examine the person and environment factors important in general theories of human adaptation, followed by those proposed as important in adaptation in the context of work. It will, at the same time, direct some attention to the desired outcomes—amounting to various criteria of "successful" adaptation—addressed by the different theories of work.

General Human Adaptation Theories

The study of adaptation links the biological sciences, the psychological sciences, and the social sciences. The interaction, or mismatch, or lack of acceptable compromise between *person* and *environment* is the dominant theme, but there is some disagreement among theories as to where the emphasis should be placed.

The biological sciences and the clinical (psychiatric, etc.) sciences, as well as psychology, emphasize the organism. In the clinical sciences and psychology, human *emotion* is the key:

> ... coping represents a transaction between an individual and his [sic] environment. The actions or intrapsychic processes ... take place in an emotional context. (Lazarus et al., 1974, p. 258)

The intrapsychic-oriented theories of adaptation focus on types or classes of needs, values, expectancies, perceptions, etc. This does not mean that the effects of environment are completely ignored: "... coping can never be assessed or evaluated without regard to the environmental demands that create the need for it in the first place" (Ibid.). It does mean that the individual is the primary locus of adaptation, in emotion-based response to those environmental demands.

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* It should be noted that the words coping, defense, mastery, adjustment, and adaptation appear to be used interchangeably in the various citations of the literature. Each term does have a specific connotation (discussed in Chapter IV, p. 79), but for current purposes, the terms are treated as synonyms, following White's contention that "the described phenomena ... belong in the more general category of strategies of adaptation, as part of the whole tapestry of living" (1974, p. 52).

The emphasis in some other theories (especially in sociology, anthropology, and organizational theory) is more on the environment. Societies, cultures, families or clans, institutions, groups, or organizations are seen as the locus of adaptive processes. According to Mechanic (1974),

> . . . many environmental demands are ambiguous and intangible; they are created out of the social fabric and social climate that exist at any time. . . . Many of the demands to which man [sic] must adapt are those that he has himself created. (p. 35)

Mischel (1968) reviewed the literature on adaptive specificity and noted that adaptation may depend heavily on the particular environmental context. Scott (1966) added that ". . . 'adaptation' implies a particular frame of reference concerning the person and his [sic] environment. A given behavior may be judged adaptive with reference to one environment and not with respect to another" (p. 395).

French, Rodgers, and Cobb (1974) attempted to merge the two emphases by distinguishing two meanings of "environment" and of "person":

> . . . (1) the *objective environment* that exists independently of the person's perception of it; and (2) the *subjective environment* as it is perceived and reported by the person. A parallel distinction can be made between the objective person as he [sic] really is and the *subjective person,* or self-concept. (p. 316)

French et al. went on to draw the following implications, proposing two different but related conceptions of adaptation:

> . . . the *objective fit* between the objective person and the objective environment, and the *subjective fit* between the subjective person and the subjective environment. (Ibid.)

The first notion implies an adaptive "reality" that reflects, possibly, a kind of "consensus" notion, which may be the judgment of others; the second notion reflects the individual's own judgment regarding the relative adaptive success or failure of his or her own situation.

Biological Theories of Adaptation

Biological theories, which generally derive from Darwin's theory of evolution, deal primarily with what French et al. called the objective fit. Simpson (1958) said that "adaptation in general may be regarded as a complex of processes (and results of processes) bringing about and maintaining an organism-environment relationship useful to individual organisms and populations" (p. 521). The slant, though, is on the individual organism only as it is a *unit of a population.*

In biological concepts of adaptation, the reproductive success of a population is primarily dependent on natural selection and mutations ("survival of the fittest") that allow "progeny to utilize environmental opportunities and avoid catastrophes" (Hamburg et al., 1974, p. 409) over the long evolutionary haul. For instance, natural selection will tend to affect the population's breeding cycles in that "the size of the population must be related to the carrying capacity of the land" (Ibid.).

In Darwin's original premises, only genetic characteristics were active in evolutionary adaptation. "Acquired" (learned) characteristics, while useful to the survival and growth of individuals, were not considered inheritable, and hence not useful in the evolutionary sense. Experiments with mice involving the "learning" of behaviors by ingesting brain tissue of other mice that had been trained to perform the particular behavior, however, have called Darwin's genetic inheritance stipulation into question. It may be seen, too, that behaviors acquired by exploratory and experiential learning increase both in complexity and importance as one examines the evolutionary order, and are crucial to the adaptive potential of both individuals and populations. In Angyal's view, the organism:

> ... draws incessantly new material from the outside world, transforming alien objects into functional parts of its own. Thus the organism *expands* at the expense of its surroundings. The expansion may be a material one, as in the case of bodily growth, or a psychological one as in the case of the assimilation of experiences which result in mental growth, or a functional one as when one acquires skill, with a resulting increase of efficiency in dealing with the environment. (1941, pp. 27-28)

The inadequacies of the biological theories of adaptation to deal with the unique intrapsychic and exploratory aspects of human existence thus become apparent. It is the clinical and psychological inquiries into adaptation that offer the necessary next step in trying to understand the factors affecting human adaptive behavior in the human environment.

Psychological and Psychopathological Theories of Adaptation

Psychology-oriented theories of adaptation divide into two main schools of thought, one of which focuses on psychological health as the locus of effective adaptation, and the other of which (cognitive psychology) focuses on intelligence.* The discussion of psychological theories of adaptation in this chapter focuses primarily on the contributions of the mental health-oriented theories in determining what other factors (besides intelligence) are potent in adaptation. Cognitive-oriented notions (which cross disciplinary boundaries between physical anthropology, biology, and psychology) are examined in later discussion on the roles of intelligence, problem solving, and learning in adaptive behavior (see Chapter IV).

In a review of pertinent literature, Phillips (1968) found that three different basic assumptions about mental health and its function in adaptation have dominated psychiatric thought:

> The earliest, and in psychiatric practice still dominant, assumption sees psychiatric normality as the simple absence of mental disorder. ... The position intermediary in time sees psychiatric health as the presence of positive and constructive resources within the individual's psychological makeup ("ego resources") as a major determinant. ... The most recent formulation proposes that what determines whether psychiatric health or disorder will predominate is the interaction of the person's psychological structure and factors in the human environment. (p. 11)

Phillips noted that there is a tendency to minimize the role of environment in adaptation as viewed by the clinical sciences. For instance, most psychiatric theory is derived to some degree from the work of Sigmund Freud, whose main contribution to understanding human beings was his concept of the unconscious. The concept attempted to explain the rationality behind the apparently irrational acts of the mentally ill. Freud believed that the causes of adult deviant behavior could be traced back to childhood traumas or to arrested social development, such as Oedipal conflicts, oral or anal fixations, a rejecting or seductive mother, and so forth.

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* In the cognitive theories, intelligence is the one, all-important factor: *the* "means of survival" (Rand, 1964). It is readily apparent, though, that while intelligence and problem-solving abilities, etc., are important in how individuals cope with cognitive problems, intelligence is not as important—and can be an impediment—in emotional coping. Many very bright people have trouble dealing with anxiety, for example.

The next important emphasis in psychology and the clinical sciences was on the "healthy personality . . . [as] an idealized end-state of personal evolution rather than personality-in-development" (Ibid., p. 14). One of the major theories in this genre is Maslow's needs hierarchy, which is "a positive [i.e., positivist] theory of motivation" dealing with "the highest capacities of the healthy and strong man [sic] as well as with the defensive maneuvers of the crippled spirits" (Maslow, 1954/1973, p. 17). Maslow postulated a ranking of human needs for ideal psychological health:

Self-Actualization HIGHER ORDER NEEDS
Esteem Needs
Belongingness and Love Needs
Safety (and Security) Needs
Physiological (Basic Survival) Needs LOWER ORDER NEEDS

In the theory, once a lower-order need is satisfied, other (and higher) needs immediately emerge and begin to dominate the organism. The ideal, perfectly adapted human being is one who realizes all of his or her lower-order needs and achieves "self-actualization"--becomes everything that he or she is capable of becoming as a human being.

Maslow recognized that there are exceptions to his theory. Very few human beings ever achieve self-actualization; Maslow himself identified only two historical personages—Lincoln (in his last years) and Thomas Jefferson, of whom he was "fairly sure." Another problem is that not everyone has the same priority of needs as Maslow suggested, and people can have deprivations on several needs levels at the same time. Carlisle (1973) pointed out that ". . . individuals will not respond to opportunities for need satisfaction in the same way. . . . Needs are also affected by aspiration levels, values, personal expectations, and many other factors" (p. 147).

A useful outcome of Maslow's theory, though, together with the work of other psychologists on the concept of the healthy personality (Jahoda, 1958; Shoben, 1957), was a set of overall dimensions of a healthy personality. According to Phillips, the dimensions, which may correspond to the "dimensions of psychological development along which the adaptive potential of all individuals may be judged," are:

> (1) a degree of intellectual and emotional development sufficient to imply a potential for environmental mastery; (2) a level of social development that permits a balance between independence and social participation; and (3) the achievement of a level of moral development that allows for reciprocity in one's dealing with others. (1968, p. 16)

The importance of individual intrapsychic dynamics—needs, values, motivations, expectations, etc.—is unquestionably potent in adaptation. It is vital to have an understanding of human psychological needs (the demands of the "internal environment," so to speak) as well as physical needs (demands of the "external environment"). Only intermittent attention to the external environment, though, has been given in most clinical/psychological theorizing. Phillips noted that "the term 'the average expectable environment,' coined by Hartmann (1958), captures the pervasive indifference to the role that everyday situational factors may play in initiating or alleviating personality disorganization or aberrant behavior" (1968, p. 17).

Both Lewin (1936) and Murray (1938) gave consideration to the importance of environment in adaptation, stressing the need to view human behavior as an outcome of the relationship between the person *and* the environment. It has not been until recently, however, that psychologists—and social psychologists in particular—have begun to pick up on these leads. Lazarus et al. (1974) recognized this need:

> The study of determinants of coping should be designed to include simultaneously situational variables and those relevant to personality with which situational variables communicate. ... Although we can study potent situational determinants of coping separately from personality determinants, especially those that tend to have similar effects on most persons, and although we can study potent personality variables separately also, in the long run we will have to consider the interplay of both. (p. 304)

Fromm (1947) made an early attempt to do this by tracing the interrelationships of economic structures to the appearance of specific human types: receiving, exploiting, hoarding, and marketing forms of character (see Phillips, 1968, p. 19). French and Kahn (1962) did not concern themselves with any specific external context or structure, instead dealing with their ideas of objective and subjective person-environment fits. Their premise is that adaptation occurs when there is an excess of demands or a deprivation of needs or values (where needs are objective and innate to all humans, and values are subjective and acquired by individuals). Such a deprivation:

> ... induces motivational forces on the person in the direction of satisfying the motive. The strength of these forces will depend on the magnitude of the deprivation (how poor the person-environment fit), the importance of the dimension on which the deprivation occurs, and the person's expectations for the future. ... Finally, the strength of the forces will depend on the *relative* deprivation; the person will evaluate the magnitude, importance, immediacy, and duration of his [sic] deprivations against those suffered by his reference group. (French et al., 1974, p. 330)

In effect, French et al. conceive of the person-environment fit in terms of discrepancies between environmental demands and personal supplies or between personal needs and environmental resources, and they conceptualize the demand and the corresponding supply on commensurate dimensions.

Even with the work of French and his collaborators, the need for further work on the environmental side of the person-environment system is "particularly acute, because this is as yet a relatively underdeveloped area" (Moos, 1974, p. 381). Mechanic (1974) concluded that the picture of adaptation that emerges from the clinical and psychological literature is one "that depicts ... coping as largely intrapsychic" (p. 39). The sociologist Mills denied psychoanalysis' contention that:

> ... man's [sic] chief enemy and danger in his own unruly nature and the dark forces pent up within him. [Rather] man's chief danger today lies in the unruly forces of contemporary society itself, with its alienating methods of production, its enveloping techniques of political domination, its international anarchy—in a word, its pervasive transformations of the "nature" of man and the conditions and aims of his life. (1959, cited in Phillips, 1968)

It has largely been the work of sociology and anthropology to examine and describe the factors and relationships of environment in human adaptation.

Sociological and Anthropological Views of Adaptation

While the biological sciences are concerned with human adaptation in the physical realm, and clinical/psychological sciences concentrate on intrapsychic adaptation, the behavioral sciences of sociology and anthropology focus on describing and understanding the potent factors in the human-invented sociocultural environment. "The feature unique to the environment of humans is active participation with other people" (Phillips, 1968, p. 8). In that context, human adaptation becomes what people do in response to how the culture or society in which they live affects their survival and growth needs. "Knowledge of the social context within which the individual operates is vital to our understanding of him [sic] and his behavior . . . and it is essential to consider the nature of the human environment and the common crises that interaction with that environment brings about . . ." (Ibid., p. 7).

A basic assumption in sociology, noted by Peters (1958), is that humans are "rule-following animals" whose activities tend to conform to the expectations of those with whom the person interacts. The expectations differ according to age, sex, status, and other factors, and may also differ over time as the society or culture itself changes.

Two levels of sociological theory, role theory (concerned with small social systems) and social structure theory (concerned with the large social system), are based on the assumptions above. Role theory proposes that people follow various "regularized sets of behaviors that conform to particular expectations of complementary others . . . [and] an individual lives his [sic] life in a sequence of such role relationships, for example, that of child and mother, student and teacher, worker and boss, husband and wife, or father and child" (Phillips, 1968, p. 18). A key concept in role theory is that of "significant others": the other person(s) or group(s) involved in the role-interaction whose actions and expectations influence the actions and expectations of the individual. Effective adaptation, then, consists of fulfilling the behavioral requirements expected of the role by significant others. Presumably, a person's behavior could be predicted, via role theory, simply by knowing what role the person is playing.

A limitation on the usefulness of role theory in understanding adaptation is that people "relate to groups in a great variety of ways, and they may relate to the same group in different ways" (Mechanic, 1974, p. 34). A strong point of the theory is that it helps to account for differences in what is considered "appropriate" adaptive behavior across different groups. For example, what may be considered an acceptable adaptive behavior in a slum district (e.g., living on welfare) might not be considered acceptable in an upper-middle-class community.

Social structure theory is more of a "top-down" theory in that it posits behavioral expectations for all members (and the various subgroups) of a society. According to Phillips,

> There is a general consensus, subject to much local, idiosyncratic, and temporal coloring, as to what constitutes an acceptable, or at least tolerable, range of behaviors. In every society, criteria exist for judging whether a person's actions and general style of life are appropriate for his [sic] position in that society. Overtly, expectations for a person's behavior are designated by his age and sex, and covertly by his social class affiliation. The social rules may be either implicit or explicit, ambiguous or clearly articulated, and laid down by law or simply by custom. (1968, p. 59)

Presumably, limitations on behavior are determined by the structure of the society, which is manifested primarily in the institutionalization of the processes by which it perpetuates itself and by which it meets its members' needs (e.g., education and socialization, distribution of goods and services, enforcement of laws, etc.). A key concept in structure theory is that of institutions, and in this view, it is institutions that provide for—and delineate—the adaptive needs and methods for all members of the society.

Anthropological theory adds a cross-cultural perspective to the human environment, making clear "how interdependent human beings are even in the most simple of societies and how dependent they are on group solutions in dealing with environmental problems" (Mechanic, 1974, p. 34). Goldschmidt (1974) points out that:

> ... in human societies there are recurrent problems requiring institutionalized solutions. These problems are the result of a combination of two generic circumstances: (1) the vicissitudes of the environment within which the society must maintain life; and (2) the preprogrammed, self-seeking characteristics of the human animal that must be curbed or channelized. (p. 19)

What channels, rites, rituals, customs, or systems provide the institutionalized solutions to the above problems vary from one culture to the next, and the variation "is dependent, in large measure, on the character of ... technology and the size and circumstances of the population that it supports" (Hamburg et al., 1974, p. 410). Despite the variations, there is a theme of "human consistency in the face of cultural diversity" (Goldschmidt, 1974). All human beings in all cultures "seem to require a dependable basis for self-esteem and a sense of belonging in a valued group" (Hamburg et al., 1974, p. 411).

Regardless of a person's position in a society or the culture within which he or she lives, "significant others" (whether role-partners, groups, families, clans, or institutions) define the acceptable limits of most areas of one's life, be it "territoriality, mobility, the pattern of fertility, food acquisition and use, mating, and social responsibility ... [as well as] a large and varied set of demands that impinges on almost every aspect of life from survival to the most trivial of interrelationships" (Mechanic, ibid.). If tradition or institutional solutions to human needs lag behind technological or social change, a primary resource for adaptation becomes inadequate. This only adds to the basic problem of group-focused theories in understanding human adaptation:

> ... sociological theorizing can deal only with differences in group rates of adaptive and nonadaptive behavior. Individual susceptibility to disorder is ignored, and deviance is taken to be the consequences of unusual societal pressures. The sociological framework cannot contribute to our understanding of why, under given environmental conditions, some persons (and usually only a small proportion) respond in a deviant manner while others continue to behave appropriately. (Phillips, 1968, pp. 204-205)

Even with their confined theoretical perspectives, however, sociology and anthropology shed light on the potent roles that society, culture, and "significant others" have on individuals' adaptation in their environments.

Summary of General Human Adaptation Theories

The majority of the theories attempting to explain human adaptive behaviors are based on the theme of person-environment interaction. The emphases on person or environment and their factors and interrelationships, however, vary across areas of inquiry.

In the biological sciences, "person" factors are given attention only insofar as a person, or "organism," is a unit of the population or species. Also, the characteristics of an individual organism are a factor in adaptation only as they can be genetically passed on to progeny. "Environment" factors are those that comprise a species' or population's ecological niche (e.g., available food supply, materials and conditions necessary to propagation and/or parenting, natural enemies, climate, etc.), and natural selection is the manner by which the population copes with changes in the environment. Adaptation is primarily a function of the species or population.

In the clinical/psychological sciences, "person" factors focus primarily on the individual's emotions and intelligence. Theoretical emphasis is on the "internal environment" of the individual and his or her mental health. A healthy personality is one that achieves relative inner stability, develops high levels of problem-solving abilities (i.e., intelligence), and seeks to fulfill a hierarchy of "higher" human needs. "Environment" factors, physical or social, are usually not specified (although Argyris and some other organizational psychologists have done some work in this area), and are generally given consideration only insofar as they impinge significantly on the emotional state or intellectual development of the person. Adaptation is primarily a function of the individual personality.

In sociology and anthropology, "person" factors are given little attention, and individuals are viewed primarily as reactive creatures whose behaviors depend upon the influences of social pressures. "Environment" consists of ecological factors as well as social factors, but the emphasis is pointedly on the social ones, the "human environment." Included are institutions, groups (both formal and informal), symbols, and proscribed modes and standards of behavior (both explicit and implied). Adaptation is primarily a function of sociocultural institutions and/or conformity to the expectations of significant others.

The differing emphases among the theories reviewed here reveals that no one of them adequately considers all of the potent factors that are vital to understanding human adaptation. Each area of inquiry, however, provides useful concepts and perspectives by which to examine person-environment interrelationships. As Phillips (1968) noted,

> . . . a theoretical position that accepts both intrapsychic processes and environmental conditions as equally valid determinants of behavior seems most fruitful heuristically . . . Such a psychosocial framework will contribute most to our understanding of . . . adaptation and its failures. (p. 22)

In the next section, theories relating to adaptation in the context of work will be reviewed.

Adaptation and Theories of Work

Work involves adaptation in two senses: (a) it provides a *means* of adaptation through which certain basic kinds of societal, group, and individual needs for survival and growth can be met; and (b) it makes adaptive *demands* on the society, groups, and individuals, each of which depend in some way on the others to meet their own needs. As a means of adaptation on the societal level,

> the economic and societal importance of work has dominated thought about its meaning, and justifiably so: A function of work for any society is to produce and distribute goods and services, to transform "raw nature" into that which serves our needs and desires. (O'Toole, 1972, p. 3)

From this perspective, work is generally conceived of as "jobs," and jobs as "roles occupied by individuals in the economic sector of society" (Sorensen & Kalleberg, 1973, p. 1). Society adapts, meeting its various needs to "transform raw nature," by requiring many of its members to get and keep jobs.

In the United States, most work, or jobs, exist in the unique environments we call organizations, and it is in organizational contexts that work-related adaptive demands mostly occur. According to Argyris,

> organizations come into being when goals to be achieved are too complex for any one individual. The sequence of events necessary to achieve these goals have to be divided into units manageable by individuals. (1973, p. 141)

An organization, though, has "certain properties that distinguish it from informal groups, communities, or simple aggregates of individuals. . . . The organization is seen as a social system made up of mutually dependent parts" (Whyte, 1969, pp. 20-21). And, as in any social system, or subsociety (as Argyris views it), a work organization has its own purpose, goals, needs, components, influences, etc., which concern—but can often be distinguished from—those of its members as individuals.

Individuals are viewed in many ways in theories about work, and the personal and environmental factors involved in adapting in the world of work are given more or less weight according to the theories' intended use. Most theories do agree, though, that individuals are influenced on many levels by the organizations for which they work, and the organizations are simultaneously influenced by the workers who form them. Bakke (1953) talks about a fusion process that occurs between an organization and its members:

> The operation of the organization on the individual and of the individual on the organization actually merges or fuses the two. . . . The process is endless and, while it tends toward equilibrium, it may be disturbed by any changes in the individual or the organization. (p. 20)

Specialists have studied, described, and tried to predict the fusions—and failures to fuse—of workers and work environments from many perspectives, including psychology and sociology (variously compartmentalized as industrial, occupational, or organizational), industrial engineering, industrial administration, economics, physiology (as in occupational stress), and other, undifferentiated areas of thought. Most research has had, as its central concern (and proposed criteria of adaptive "success"), the productivity of the work organization. Recently, though, some studies have been undertaken with the less pragmatic concern of human happiness in mind.

Four main points of view have evolved about which person factors and organization or job-related factors interrelate, and how. The earliest movement (which is still powerful today) is the "Human Rewards" perspective, which is founded on the ideas of Frederick Taylor, the father of scientific management. The "Human Relations" movement, which also still has proponents, is an expansion of Taylor's ideas to include (and emphasize) the importance of social interactions in the work setting. The Job Satisfaction (or "Work Itself") movement took hold in the 1960s, and focuses on the idea that job satisfaction (and, consequently, productivity) depends on making the *work itself* rewarding to workers. The most recent movement, the "Quality of Work Life" movement, values the overall happiness of people who work, as well as organizational and societal concerns about productivity.

All of the movements give implicit (but seldom explicit) attention to adaptation, in that all of them are concerned with how workers can be adapted to organizational needs, or how conditions could be created within the organizational environment through which workers would be motivated to adapt themselves in ways that would serve the organization. (The Quality of Work Life movement goes beyond these organization-centered concerns to focus on workers' needs both within work and across other contexts of their lives as well.) Most theories do seem to agree that whatever happens (or does not happen) to effect adaptation between workers and the work environment, it involves certain broad areas of factors: the characteristics of *individual workers,* of the *jobs* they perform, of the *organizations* in which most jobs exist, and of the *economic/technological/societal environment* in which they all exist.

The remainder of this section reviews the pertinent theories of the four movements above, in order to examine the basic concepts relating to adaptation, and to derive the major factors involved and the relationships that are drawn between them. The sections that follow then examine theories and research on occupational choice, career development, transferable skills, and components of adaptive competencies. Taken together, this information will be used to construct a profile of the factors, agents, and interrelationships involved in individual adaptive responses in the world of work.

The "Human Rewards" Movement

The first systematic examination of the relationships between work and workers was done by Frederick Taylor, whose *Principles of Scientific Management* (1911) was based on "painstaking observation of behavior on the shop floor" (Whyte, 1969, p. 5). Taylor introduced a number of concepts about worker attitudes, planning and standardization of work methods, and the role of pay as an incentive for performance.

In Taylor's model, the pivotal human factor was attitude toward work:

> By "attitude," Taylor meant much more than just feelings; he meant the workers' philosophy concerning cooperation with management and their view of their own self-interest. He implicitly assumed that a worker who accepted the scientific management philosophy and who received the highest possible earnings with the least amount of fatigue would be satisfied and productive. (Locke, 1976, p. 1298)

Taylor believed that hedonism was the primary motivator of human beings, and that workers' attitude toward work was one of dislike. He attempted to deal with the incongruities between this attitude and the requirements of work organizations "by installing financial incentive programs intended to make workers *want* to work hard toward organizational goals, and by placing such an elaborate set of supervisory controls on workers that they scarcely could behave otherwise" (Hackman, 1977, p. 101).

Another basic assumption of Taylor—and of Gilbreth (1919/1970), another pioneer in the scientific approach to management—was that there is one best way of doing any job or job task. The best way, according to Taylor, could be determined through observation and measurement:

> He examined the characteristics of metals and tools. . . . He observed that workers had different styles of performing the same tasks, with different levels of efficiency. He noted the nature and sequence of activities in each work cycle and timed each movement with a stopwatch. Thus he sought to determine the best way to put the motions of the work cycle together and to establish a standard time for the completion of the cycle. (Whyte, 1969, p. 4)

The planning of a job was to be the responsibility of supervisors, based on time-motion studies, and individual workers' discretion in the doing of the job was to be minimized. Taylor stressed the importance of assuring that "the tasks done by workers did not exceed their performance capabilities" (Hackman, 1977, p. 100).

These ideas, intended to increase the productivity—and hence profit—of work organizations, were widely adopted, and many of them are still at the core of current management philosophies. Such organizations streamline jobs (thus reducing fatigue), dictate exact task and cycle specifications, and often pay the individual worker by the piece produced (thus linking performance to reward). Presumably, workers "adapt" to the world of work by accepting this philosophy and cooperating with the mandates of the organization. Those who do not adapt do not keep jobs. The worker's attitude, the efficiency of the job cycle, and the organization's incentive plan are assumed to be the potent factors.

These notions about worker attitudes and the rigidity of the work structure and role of management did not resolve "people-problems (such as high absenteeism and turnover, poor quality of work, and high worker dissatisfaction) that became increasingly evident in work organizations" (Hackman, 1977, p. 101). Observation and measurement in the work place continued, and a broader view of what composed successful (i.e., adaptive) work-worker relationships emerged, the "Human Relations" movement.

The "Human Relations" Movement

The Hawthorne experiments (Mayo, 1933; Roethlisberger & Dickson, 1939) were conducted at the Hawthorne plants of the Western Electric Company in the late 1920s in order to investigate the effects of rest pauses and incentives on productivity. It was discovered that workers' productivity was being strongly affected by the relationships between workers and their supervisors, and by informal work groups that could exert social pressure in the work environment (i.e., by restricting production according to the group's notion of "a fair day's work"). The most significant outcome of the Hawthorne studies, at least for understanding occupational adaptation,* was its broader conceptualization of the worker, going beyond the idea of "economic man." According to Mayo (1945), "man's [sic] desire to be continuously associated in work with his fellows is a strong, if not the strongest, human characteristic" (p. 111).

The influences of "significant others" became the major focus of what became known as the "Human Relations" movement. The study of work groups and supervisory styles was the focus of sociologists such as Lewin (1936, 1947, 1951), Homans (1950), and Whyte (1955), and psychologists such as Fleishman (1953, 1975), Halpin and Winer (1957), and Likert (1961). Their work stressed the *group* as the unit of investigation, in the belief that "the individual plays a role primarily in terms of his [sic] position in the structure of the group or his contribution to group processes" (Herzberg, Mausner, & Snyderman, 1959, p. 9). Groups were conceived as having structure (lines of communication and influence), cohesiveness (attraction of members to the group), and direction (leadership).

Work organizations, always concerned with productivity and profitability, noted that the studies linked increased work group satisfaction with increased productivity:

> There is considerable evidence that the satisfaction of subordinates is positively associated with the degree to which they are permitted an opportunity to participate in making decisions. (Vroom, 1964, p. 115)

With this and other related findings in mind, concerned managers concentrated on bettering relationships with unions, retraining supervisors, reorganizing jobs to create cohesive work teams, restructuring segments of the organization to allow degrees of group decision-making, fostering democratic leadership, and experimenting with participative supervision.

As regards adaptation in the work place, the Human Relations theories imply that the main locus of adaptation is the work group; that is, the most important influences are the relationships and interactions with significant others in the immediate work environment: coworkers and supervisors.** Presumably, a person adapts in his or her work situation through either a membership or leadership role. The impact on individuals of significant others—factors of which involve group goals, values, size and type of group organization, style of leadership, attitudes, and relative power—and the policies of the work organization regarding supervision and group decision-making would probably constitute the most potent factors in adaptation in work, according to Human Relations theories.

Work in this area led to greater understanding of interpersonal relations in the work place, participative decision-making in the immediate work environment, and more humane management policies. Unfortunately, the extreme stress on the importance of groups tended to ignore the individual worker (as well as the organizational structure and the external environment). As Vroom (1964) points out,

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* An inadvertent outcome of the Hawthorne experiments, while not directly pertinent here, was the so-called "Hawthorne effect," by which it was noted that a poor experimental research design is apt to bias the data collected in a study.

** Unions or professional associations also constitute groups of significant others, where appropo.

> It would seem to be crucial to go beyond the implicit assumption that all persons equally value interaction with their coworkers, or being accepted by their coworkers, and to attempt to establish the nature of the interactions between these environmental states and individual motives. (p. 126)

Beginning in the late 1950s, research began to swing away from studying work groups and the roles of supervision/management, and began to focus on individual worker motives and needs, and the importance of the work itself in achieving job satisfaction.

The Job Satisfaction Movement

In a sense, the Human Rewards and the Human Relations movements had both been concerned with job satisfaction, for it was generally agreed, "worker attitudes and adjustments to the work place have a direct bearing on productivity, costs, quality of product, profitability, and competitiveness in world markets . . ." (Rosow, 1974, p. 7). Job satisfaction was viewed as a measure of a worker's attitude, and thus a predictor of productivity. In the Human Rewards model, a worker is satisfied (and consequently productive) if his or her job is efficient and the pay is sufficient. In the Human Relations model, a worker is satisfied if (a) he or she is a part of a harmonious work-group, (b) that work-group has some say in decisions involving members' jobs, and (c) if the supervisors treat everyone humanely. In effect, job satisfaction—however defined—was this movement's criteria for "successful" adaptation.

In 1935, Hoppock published the first indepth study of job satisfaction, which was not aligned with any particular management philosophy. The study revealed a "multiplicity of factors that could affect job satisfaction, including both factors that had been studied previously (fatigue, monotony, working conditions, supervision) and those which were only to be emphasized later (achievement)" (Locke, 1976, p. 1299). Hoppock's study also showed that differences in job content were important:

> The number and nature of the functions which individual workers are called upon to perform vary tremendously from one work role to another. The duties of the doctor, the assembly line worker, the policeman, and the corporation president differ so extensively from one another that it is difficult to see how the psychological consequences of these differences could have received so little attention. (Vroom, 1964, pp. 1126-1127)

Hoppock's work was overshadowed by the Human Relations movement for a long time, but a monograph published by Herzberg, Mausner, and Snyderman in 1959 initiated an era of research on the motivational consequences of job content. The school of thought that emerged, sometimes termed the "Work Itself School," was based on the idea of "the attainment of satisfaction through growth in skill, efficacy, and responsibility made possible bv mentally challenging work" (Locke, 1976, p. 1300).

Numerous models have been postulated to identify the variables that relate to job satisfaction.

> The . . . research which has been conducted on the determinants of job satisfaction has dealt primarily with two relationships: (1) the relationship between satisfaction and job characteristics, and (2) the relationship between satisfaction and characteristics of the person. As Lawler (1973)

> states, "Not surprisingly, the research shows that satisfaction is a function of both the person and the environment." (Mount & Muchinsky, 1978, pp. 84-85)

Most models give what they consider to be significant job dimensions. Most also seem to include the following general assumption:

> A job is not an entity but a complex interrelationship of tasks, roles, responsibilities, interactions, incentives, and rewards. Thus a thorough understanding of job attitudes requires that the job be analyzed in terms of its constituent elements. (Locke, 1976, p. 1301)

The models generally focus on attitudes, needs, values, expectations, or other affective elements as the significant *person dimensions* that interact with the *work environment dimensions* (especially job content) to determine whether or not a person feels satisfied in his or her work situation.

A number of pertinent job satisfaction models will be reviewed next. They vary according to whether their slant is on person dimensions or work environment dimensions as the more relevant elements in satisfaction. Within those perspectives, the models vary according to which particular person or work-related dimensions are believed to be most potent. Finally, they tend to vary considerably in what constitutes "job satisfaction"—their criteria of "success" in adaptation. Each of the models reviewed here has contributed somewhat to the thinking upon which the model of occupational adaptation (see Chapter V) is based.

Herzberg's motivation-hygiene theory. Herzberg and his associates (1959) pursued their studies of worker-work interactions by examining relationships between job attitudes and the resulting responses in work. Essentially a psychological approach, the theory is what Locke (1976) calls a "content theory"—an attempt to "specify the particular needs that must be satisfied or the values that must be attained for an individual to be satisfied with his [sic] job" (p. 1307). The central question asked by the Herzberg studies was, "What do people want from their jobs?"

Herzberg based his theory on the assumption that "human motivation is constituted of two factors: a humanistic factor (taking satisfaction from experiences of growth) and . . . 'animal' (avoiding dissatisfaction from pain in the environment)" (Szura & Vermillion, 1975, p. 181). A study on which the theory is based found that environmental factors in work that act as satisfiers are *different* than the factors that act as dissatisfiers:

> Factors in the job context meet the needs of the individual for avoiding unpleasant situations. . . . the job factors [content] reward the needs of the individual to meet his [sic] aspirations. These effects on the individual can be conceptualized as actuating approach rather than avoidance behavior. (Herzberg et al., 1959, p. 114)

Herzberg called job factors "motivators," as opposed to extra-job (context) factors, which he labeled factors of "hygiene." The motivators are the content of the work itself, as well as how much the work provides feelings of achievement, recognition for a job well done, responsibility, and chances for growth and advancement. Herzberg also echoed a theme of the Human Relations movement, the individual's measure of control over the way in which the job is done, as an important motivator factor. According to the theory, these job content factors are sources of satisfaction, but their absence or inadequacy is not expected to produce actual *dis*satisfaction.

The hygiene factors, which are associated with the conditions or context surrounding the job, include salary, job security, fringe benefits, interpersonal relationships, quality of supervision, company policies and administrative practices, and the comfort and safety of working conditions. The hygiene factors are expected to produce a state of dissatisfaction if they do not meet acceptable levels. Regardless of how well hygiene needs are met, however, hygiene factors do not produce satisfaction. Rather, they produce a neutral set of attitudes. Further, the fewer the "opportunities for the 'motivators' to appear, the greater must be the hygiene offered in order to make the work tolerable" (Ibid, p. 115).

The theory does not address the issue of the effects of individual differences on response to motivation-hygiene factors. Herzberg explained, "Since each individual may present at any one time a different scramble of his [sic] psychological need list, a systematic personnel practice hoping to cater to the most prepotent needs of its entire working force is defeated by the nature of the probabilities" (Ibid., p. 110). Herzberg and his colleagues subscribed to the idea that, after basic hygiene needs are met in a job, the human need for self-actualization (as proposed by Maslow) will drive workers to seek satisfaction through work itself: "The factors that lead to positive job attitudes do so because they satisfy the individual's need for self-actualization in his [sic] work" (Ibid., p. 114).

The motivation-hygiene theory is primarily intended for use by management in its search for ways to affect productivity. Both motivator and hygiene factors can presumably be manipulated by a work organization to influence workers' attitudes. Only the content (motivator) factors, however, relate to productivity: "All we can expect from satisfying the needs for hygiene is the prevention of dissatisfaction and poor job performance" (Ibid., p. 115). Job attitudes are also supposed by Herzberg to affect turnover (the likelihood of persons to stay in their jobs), mental health, interpersonal relationships, and attitudes toward oneself as well as one's colleagues, profession, or company; all of these could, presumably, be affected by organizational manipulation of job content and hygiene factors.

Subsequent studies have pointed out a number of shortcomings to Herzberg's theory. Szura and Vermillion (1975) criticized the theory's neglect of personal factors, saying that

> . . . there is a relationship between at least some personality variables [personal value on self-actualization, internal locus of control, defensiveness, and need for approval] and the attribution of either a satisfying or a dissatisfying work experience to both intrinsic and extrinsic job factors. (p. 186)

Carlisle (1973) took exception to the theory's list of significant work factors:

> Motivation is not simply a relationship between an individual and the tasks he [sic] performs. . . . Motivation is affected by that relationship, but it is also affected by organizational purpose, technology, structure, and such external factors as culture, general level of technology, government, and economic conditions. (p. 154)

Finally, some other studies (Dunnette, Campbell, & Hakel, 1967; Graen, 1968; King, 1970) investigated motivational effects of various work factors, and found that some aspects of the work place can serve at times as motivators and at other times as hygiene factors. These findings put Herzberg's two-factor approach in question.

Despite its shortcomings, Herzberg's theory was the first important indication that the content and conditions of work itself are of enormous significance in "the ultimate motivation and satisfaction of employees" (Hackman & Suttle, 1977, p. 108). These same job content and job context factors probably affect worker-work interactions involved in occupational adaptation.

Argyris' personality and organization theory. Argyris' personality and organization (P/O) theory introduced a new slant to studying worker-work interrelationships by focusing on the dimensions of person factors in the work place as those most significant in satisfaction and productivity. One of the central themes of the theory is "to study individual differences and to suggest new work worlds where individual differences might flourish" (Argyris, 1973, p. 142).

An explicit personality model, or "model of man," is at the core of this and other organizational psychology theories. Argyris' personality model proposes that there are

> . . . continua along which individuals can be ordered, through empirical research, in terms of the kinds of needs and where they are located on each continuum. The variance of need expression can be studied among individuals as well as within individuals depending on the situation in which they exist, the particular stage of their personal development, or the history of need fulfillment. (Ibid., p. 142)

The other important aspect of Argyris' personality model consists of individuals' abilities, which are categorized "in terms of motoric (doing), cognitive (knowing), and conative (feeling)" (Ibid., 1964, p. 229). Abilities, like needs, are arranged on a continuum from minimum to maximum competence, which "varies from individual to individual and within the same individual at different times of his [sic] development" (Ibid.).

Argyris' analog of job satisfaction was "psychological success," which he viewed as the focus for individual needs in work. Psychological success presents a "mechanism for increasing self-esteem," which is seen as a vital psychological need in humans. Another need, a sense of personal competence, is theoretically also enhanced as psychological success increases. Together with the third psychological need, confirmation by others of one's personal competence, these create a "proper state of mind"—i.e., psychological success—that allows a person to apply a high level of "psychological energy" to his or her work. In later work, Argyris (1965) added a fourth psychological need, a sense of *interpersonal* competence (e.g., openness, risk taking, owning up to, individuality, and trust), to the needs fulfilled by psychological success.

The dimensions of the work environment (the other half of the P/O model) interact with individual needs and abilities to affect psychological success (and, ultimately, productivity): "Organizations have a life of their own, in the sense that they have goals that may be orthogonal or antagonistic with individual needs" (Argyris, 1973, p. 142). The relevant organizational factors are conceived of as "patternings" of the formal and informal organization, including: (a) group attractiveness, goals, processes, and norms; (b) organizational activities and policies related to power, rewards, penalties, communication, and work flows; (c) informal activities such as goldbricking, apathy, indifference, interdepartmental conflict, conformity, and mistrust; and (d) organizational structure, size, purpose, and values.

"Congruence" between person and organization occurs when the needs and abilities of the individuals correspond with the needs of an organization and its capacity to provide meaningful challenges and opportunities for individual workers to achieve psychological success. There are three overall categories of factors that influence the likelihood of achieving congruence, as Argyris viewed it; they include (a) the values individuals place on themselves and their abilities; (b) the opportunities presented by the work organization, through which the individual is able to define his or her own immediate goals; and (c) the influences of society and culture on the individual and on the work environment (Ibid., 1964, pp. 33-34). At the job level—the locus of most worker-work interaction—the significant factors include an appropriate degree of self-responsibility and self-control in the job, commitment to it, opportunity for productiveness and work, and utilization of the worker's more important abilities (Ibid., p. 27).

Argyris devoted a chapter of *Integrating the Individual and the Organization* (1964) to P/O adaptive strategies, which will be reviewed in a later section. The factors involved in his "mix model" of personality/organization congruence are also those potent in occupational adaptation. Argyris' concept of congruence is similar to the adaptability concept of equilibrium between person and environment, and it is when a serious state of incongruence exists that adaptation must take place.

Argyris' work was an important break from the Human Relations movement, in that it focused on "the need of the person to maintain self-esteem and the right to grow in the face of the demands of the organization for 'teamwork' " (Herzberg et al., 1959, p. 10). In addition, Argyris introduced the use of models of man, and was influential in steering research on work toward the study of individual psychological needs as vital factors in worker-work interrelationships.

Vroom's expectancy theory. Expectancy theory, a social psychology perspective on worker-work interrelationships, was proposed by Vroom (1964) and elaborated by others (Atkinson, 1964; Hackman & Lawler, 1971; Porter & Lawler, 1968). Based on objective observation and critical analysis and review of laboratory experiments, correlational field studies, and field experiments, expectancy theory is an attempt to understand (rather than to aid in controlling) the motivated behaviors of individuals in work. The theory, also called a "path goal approach to motivation," states that

> ... the effort a person expends to perform some task is a joint function of both the value the individual attaches to obtainable rewards and the expectation (or perceived probability) that a certain amount of energy expenditure will result in an obtained reward. (Porter, 1973, pp. 125-126)

Vroom focused on motivation in the belief that "motivational concepts play a major role in most serious efforts to analyze and explain behavior" (1964, p. 4). He defined motivation in a specific sense: "We will use the term motivation to refer to a process governing choices made by persons or lower organisms among alternative forms of voluntary activity" (Ibid., p. 6).

In the expectancy theory's model, expectancy is conceived to be "a momentary belief concerning the likelihood that a particular act will be followed by a particular outcome" (Ibid., p. 17). Valence, which is called attitude or incentive in other theories, refers to

> ... affective orientations toward particular outcomes. In our system, an outcome is positively valent when the person prefers attaining it to not attaining it. ... An outcome has a valence of zero when the person is indifferent. ... and it is negatively valent when he [sic] prefers not attaining it to attaining it. (Ibid., p. 15)

Valences (V) and expectancies (E) combine to determine behavioral choices, and the strength of the motivational force (MF) to choose one behavior over any other is expressed mathematically as "a monotonically increasing function of the algebraic sum of the products" (Ibid., p. 18); or, in symbols:

$$MF = E \times V.$$

Vroom examined what he considered to be the three central "phenomena" of worker-work interrelationships—occupational choice, job satisfaction, and job performance. He believed that these should be regarded as:

> ... joint functions of individual differences in motives and cognized or actual properties of work roles. We should not expect to be able to account for these phenomena solely in terms of individual differences in desires and aversions or solely in terms of beliefs about or actual properties of work roles. Both sets of variables are involved, and there are important interactions between them. (Ibid., p. 286)

Vroom did not attempt to construct a model of man, or even a list of needs, as he felt it would be too difficult to formulate "a meaningful list of motives which are common to all persons." He did think that "it is possible that there are characteristics of individuals which similarly condition their reactions to objectively different aspects of the work situation" (Ibid., p. 103). At least as regards job satisfaction, however, a worker's perceptions of the work situation seem to be most potent:

> . . . the job satisfaction of a worker would be a function of: (1) his [sic] beliefs concerning the degree to which he possesses various characteristics; (2) his beliefs concerning the degree to which these characteristics should result in the attainment of rewarding outcomes from his job, i.e., their value as inputs; (3) his beliefs concerning the degree to which he receives these rewarding outcomes from his job; (4) his beliefs concerning the degree to which others possess these characteristics; (5) his beliefs concerning the degree to which others receive rewarding outcomes from their jobs; and (6) the extent to which he compares himself to others [e.g., the equity issue]. (Ibid., pp. 171-172)

Different perceptions across different individuals will allow some people to be more easily satisfied than others in identical work situations (which may confound job satisfaction studies based on self-reports only).

In his extensive review of prior research efforts, Vroom did examine and discuss many of the same job-related needs that were considered by other theorists. Extrinsic needs that Vroom listed as significant included wages, supervision, interpersonal relations, job content, and promotional opportunities. Intrinsic needs (in essence, intrapsychic needs) included achievement, self-expression, affiliation, autonomy, self-esteem, security, and social status.

Vroom also gave a good bit of attention to a person factor he called ability. "A person's ability to perform a task refers to the degree to which he [sic] possesses all of the psychological attributes necessary for a high level of performance excluding those of a motivational nature" (Ibid., p. 198). Ability appears to be strongly related to job choice, job satisfaction, and effective performance. Motivation does relate to ability, in that "possession of an ability by a person, or to be more exact, believed possession of an ability, is tantamount to a motive to use that ability" (Ibid., p. 94). This is the concept of "motivated skills" discussed in other research.

Vroom did not dwell on any one dimension of work factors. Instead, he examined literature on many factors of work, including supervision, accurate feedback, work groups, job characteristics (content), wages, promotional opportunities, and hours, looking for those that might act as motivational determinants of job performance, and that might be important in judgments of job satisfaction. He found a one-to-one relationship between performance and rewards, in that "Individuals are satisfied with their jobs to the extent to which their jobs provide them with what they desire, and they perform effectively in them to the extent that effective performance leads to the attainment of what they desire" (Ibid., p. 264).

In research on job content that was partly based on Vroom's expectancy theory, Hackman and Lawler (1971) claimed that certain job characteristics can directly affect employee attitudes and behavior in work, and that such effects could be conceptualized in terms of the expectancy theory:

> Specifically, Hackman and Lawler predicted that if specific core job characteristics are present, employees will experience a positive, self-generated affective response *when they perform well*—and that this internal kick will provide an incentive for continued efforts toward good performance. The specific job

> dimensions proposed as necessary to create conditions for such self-motivation to develop and be maintained are: (a) variety, (b) task identity (that is, doing a whole piece of work), (c) autonomy, and (d) feedback. (Hackman, 1977, pp. 109-110)

Further work by Hackman and Oldham (1977) added one final dimension, task significance, which "fosters work experiences for employees that, in turn, affect their work motivation and satisfaction" (Hackman, 1977, p. 110).

In examining the evidence on job satisfaction, Vroom noted that the degree of relationship between job satisfaction and job performance was tenuous: "... the lack of any market association between [the] two variables suggests the desirability of regarding them as both conceptually and empirically separable outcomes of the person-work role relationship" (Vroom, 1964, p. 187). Other researchers came to similar conclusions (Katzell, 1964; Katzell & Yankelovich, 1975; Locke, 1976; Schwab & Cummings, 1970), although, on the whole, there may be weak, but positive, connections between them (Katzell & Yankelovich, 1975).

Vroom's expectancy theory rejected Herzberg et al.'s (1959) notion of motivation, in that expectancy theory does not distinguish some factors as "satisfying," and hence motivating, and others as "dissatisfying," and hence merely hygienic. Rather, motivation is seen as depending on an individual's own expectations and his or her perceptions of how work-related dimensions (which vary in significance from person to person and situation to situation) do or do not help meet the person's expectations. Also, as we have seen, Vroom rejected the notion of a model of man. Still, expectancy theory has gained much support:

> Studies have shown ... that people's reports of their expectancies and valences *can* predict later behavior, although not all studies have found that valence measures are useful. ... There seems to be widespread research support for the utility of a general expectancy-theory approach to understanding the behavior of people in organizations. (Porter, Lawler, & Hackman, 1975, p. 57)

One of the shortcomings of expectancy theory is that it applies "exclusively to jobs that are done independently by individuals ... [and offers] no guidelines for interacting teams ..." (Hackman, 1977, p. 111).

Vroom does not give specific attention to issues of adaptation in work. There is brief discussion of the effects of change on "expected levels of reward," in that, depending on the "stability" of their expectations, people seem to take varying amounts of time for their responses (i.e., performance) to normalize after the change in rewards has occurred. The "level of adaptation," which is assumed to have been more or less stable at the previous level of reward, must normalize to a new level of adaptation. Such changes relate to expectancy theory as follows:

> If the adaptation to changed levels of reward is rapid, we can, for all practical purposes, disregard them in our predictions. On the other hand, if this adaptation takes a long period of time, we cannot ignore them for in so doing we would fail to account for a major source of variance. (Vroom, 1964, p. 167)

It is unfortunate that expectancy theory deals only with adaptation as it relates to changes in reward, but even with this shortcoming, Vroom's concepts of motivation, valence, and motivational force may be useful in helping to understand individual differences in adaptive strategies and behaviors in work situations.

Lofquist and Dawis' theory of work adjustment. A number of theories about worker-work interrelationships are based on the premise that "it is the degree to which the job fulfills or allows the fulfillment of the individual's needs that determines his [sic] degree of job satisfaction" (Locke, 1976, p. 1303). Morse (1953), Porter (1962), Schaffer (1953), and Wofford (1971) all took this basic approach, but the "need fulfillment" idea received its most cogent presentation in the work of Lofquist, Dawis, and their colleagues at the University of Minnesota (Dawis, England, & Lofquist, 1964; Dawis & Lofquist, 1975, 1976, 1978; Dawis, Lofquist, & Weiss, 1968; Lofquist & Dawis, 1969, 1975, 1978).

Lofquist and Dawis, who intended their work to be "a contribution to the development of the psychology of work," proposed a model of work adjustment in which the primary emphasis was on individual differences in needs. They defined work adjustment as "the continuous and dynamic process by which the individual seeks to achieve and maintain correspondence with his [sic] work environment" (Lofquist & Dawis, 1969, p. 46).

> The major sets of variables used in the theory are abilities and needs to describe work personalities, ability requirements and reinforcer systems to describe work environments, and satisfactoriness, satisfaction, and tenure to describe outcomes of the interaction. Prediction of the work adjustment outcomes utilizes the concept of correspondence between work personalities and work environments. (Dawis & Lofquist, 1976, p. 55)

The notion of correspondence is very similar to those of equilibrium and congruence in other work theories. Correspondence is seen as "a harmonious relationship between individual and environment, suitability of the individual to the environment and of the environment to the individual . . . and a reciprocal and complementary relationship between the individual and his [sic] environment" (Lofquist & Dawis, 1969, p. 45). In effect, correspondence is a state in which both individual and environment are responsive to each other's needs. Dawis and Lofquist (1978) later expanded the concept to include the more longitudinal notion of corresponsiveness, which "attends to the dynamic relationship that occurs in the maintenance of correspondence once it is initially achieved" (p. 76).

Satisfaction and satisfactoriness are the internal and external indicators of a state of correspondence, where satisfaction is the worker's appraisal of the extent to which the work environment fulfills his or her requirements, and satisfactoriness is the employer's or organization's appraisal of how well the worker is fulfilling the requirements of his or her job (Lofquist & Dawis, 1969, p. 47). Rounds, Sloan, Dawis, and Lofquist (1976) went another step and linked satisfaction with the degree of correspondence between individual needs and the work environment's reinforcer system, while satisfactoriness (i.e., adequacy of performance) was linked with the degree of correspondence between individual abilities and the work environment's ability requirements (often expressed as job descriptions). These notions are related to French et al.'s theory of person-environment fit (1974), in which "fit" has commensurate dimensions of needs-supplies, and demands-abilities.

The work adjustment model uses parallel terms to describe both person dimensions and work environment dimensions, because

> . . . concepts of corresponsiveness and change over time lead to the necessity for conceptualizing both the work personality and work environment in terms of . . . dimensions that will permit description of the interaction between the work personality structure and the work environment structure. (Dawis & Lofquist, 1976, p. 55)

The basic person dimensions are described as abilities and needs. Skills, which are defined as "recurring response sequences" that have been modified and refined with repetition, are subsumed into the ability dimension, because abilities are considered to be more basic and inclusive. Needs are conceptually defined as psychological reinforcement values that are not necessarily related to a state of deprivation; rather, they are an individual's preferences for particular conditions and outcomes of work. The notion of individual differences is stressed: "... individual differences are not limited to preferences (for work or other activities) but are found for skills, abilities, physical characteristics, and, for that matter, for any measurable trait" (Lofquist & Dawis, 1969, p. 18).

Needs and abilities interact in complex ways to produce individual preferences—also termed "expressed interests"—for various kinds of activities. Other ability-need relationships are expressed as personality characteristics. "The individual's set of abilities, his [sic] set of needs, and the interactions of his abilities and needs constitute the structure of his personality" (Ibid., p. 32). Further, individuals are seen as having a personality style, which involves an individual's style of response (for instance, his or her speed of reaction) and his or her style of reacting (such as tolerance for delays in rewards). When these descriptions of personality are related to work behavior, they are called the work personality, whose structure and style must be considered in terms of the abilities and needs relevant to the particular work environment requirements and reinforcers.

The work environment dimensions are described in the theory as work environment requirements and reinforcer systems. Little attention is given to the requirements factors; presumably, the requirement factors are manifested in such things as job descriptions and company policies. A worker is in correspondence with the work environment requirements when he or she has the abilities to perform the job tasks in the job description, and performs them in the manner prescribed by the organization. While the work organization is generally in control of making such stipulations, its latitude in making them is limited by government, organized labor, business competitors, and to a degree, its employees: "The employee may accept, change, or reject the employer's specifications. In order to recruit and hold workers, the employer must attend to employee satisfaction" (Ibid., p. 33).

The work environment dimension given most attention in work adjustment theory is that of occupational reinforcers, which are "conditions in work that provide satisfaction of an individual's needs" (Dawis & Lofquist, 1975, p. 167). This dimension, too, is primarily in the control of the employer, who determines what conditions (and opportunities) are available to stimulate and maintain what the organization deems appropriate work behaviors.

> In the view of Lofquist and Dawis (1978) ... the categorization of work reinforcers [falls] into three classes, depending on whether they are involved in reinforcement provided by the external environment, other people, and the self. The first two factors, Safety and Comfort, refer to environmental (i.e., organization) reinforcers; the next two factors, Aggrandizement and Altruism, refer to social reinforcers; and the last two factors, Achievement and Autonomy, refer to reinforcers that are provided by the self. (Shubsachs, Rounds, Dawis, & Lofquist, 1978, p. 56)

The reinforcer classes are briefly described as follows:

Safety — importance to the individual of the stability of work rules and practices, and a noncapricious management

Comfort — importance of a steady job that is interesting, comfortable to have, and can be relied upon

Aggrandizement — importance of the opportunity for gaining self-advancement, power, and authority over others

Altruism – importance of friendly coworkers and social service

Achievement – importance of the opportunity for fulfillment, performance, and accomplishment

Autonomy – importance of self-governance on the job and freedom to decide and act (Lofquist & Dawis, 1978)

A factor analysis of the Minnesota Importance Questionnaire (MIQ) (Weiss, Dawis, Lofquist, & England, 1966), an instrument developed to measure job satisfaction with the six reinforcer classes, found that the following work environment factors are significantly related to the following reinforcer classes:

Reinforcer Classes	*Work Environment Factors*[*]
Safety:	Opportunity for advancement Company policies and practices Compensation (wages) Security Human relations supervision Technical supervision Working conditions
Comfort:	Activity Independence Security Variety Working conditions
Aggrandizement:	Opportunity for advancement Authority Recognition Social status
Altruism:	Coworkers Moral values Social service
Achievement:	Opportunity for ability utilization Opportunity for achievement Opportunity for advancement
Autonomy:	Authority Opportunity for creativity Responsibility

These are not the only pertinent factors. Safety reinforcers, for instance, could also include stability of management, size and reputation of the company, and position of the company in the marketplace over the years (Lofquist & Dawis, 1978, p. 15). The factors considered in the MIQ, listed above, were limited to those most significant and probably most apparent to workers answering a questionnaire attempting to measure job satisfaction.

Another point about reinforcer classes is that the *classes* have a relationship to the reinforcers *dimension* similar to what individual *values* have to individual *needs:* Classes are the subcomponents of dimensions, and values are the subcomponents of (or "second-order") needs (Ibid., pp. 12-14).

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[*] Reinforcer Class and Factors matches are based on data in Table 1 of Lofquist and Dawis (1978, p. 15).

This is important in light of criticism (Locke, 1976, p. 1303) of the work adjustment theory's original failure to distinguish the concept of needs from related concepts such as values.

The work adjustment theory considered tenure—the propensity of the worker to stay in his or her job—as the outcome and ultimate criterion of successful work adjustment: "Tenure results from satisfactoriness and satisfaction (therefore from work-personality—work-environment correspondence)" (Rounds et al., 1976, p. 2). Dawis and Lofquist (1976) also claimed that correspondence itself increases as a function of tenure; that is, the longer a person stays in a job, the more his or her needs and abilities and the work environment's reinforcers and ability requirements will come to match each other. Presumably, this makes tenure the all-important goal for worker-work interrelationships—the worker's because tenure should mean greater job satisfaction, and the work organization's because tenure should mean greater worker satisfactoriness.

There are a number of problems with this conceptualization. On a minor note, several studies of job satisfaction (Koch & Steers, 1978; Porter & Steers, 1973) have found that satisfaction is not necessarily related to tenure. Koch and Steers noted that "... job satisfaction deals principally with cognitions and affective responses to the job and may be more transitory in nature than [job] attachment"* (1978, p. 120). Porter and Steers also stated that "it is necessary to look more closely at the various factors of the work situation as they potentially relate to the propensity to withdraw" (1973, p. 154), rather than draw conclusions based on a gross measure of satisfaction. Finally, as March and Simon (1958) pointed out, a person who is dissatisfied with his or her job may still be inclined to stay in it if he or she does not have or is not aware of the availability of more preferable job opportunities, or does not believe that he or she is able to move toward them.

Another problem with the theory of work adjustment arises in attempting to equate its criterion of success with occupational adaptation. While tenure may be a valid criterion of positive outcomes within a particular job or occupation, it does not apply to positive outcomes where mobility is the issue. For a concept of occupational adaptability to be useful in contemporary society, it must incorporate the phenomena of both voluntary and involuntary moves between jobs and across careers. It must also avoid, wherever possible, value-loaded judgments on the goodness or appropriateness of mobility, instead dealing with it simply as a reality.

Despite this conceptual blind spot, the theory of work adjustment has added important ideas and information to understanding many of the factors and interrelationships involved in adaptation. Its stress on "the need for individualized matching of men [sic] and jobs" and its suggestion that "such activities as placement and retraining should be based on a careful analysis both of the individual's unique abilities and needs and of the available work environments" (Lofquist & Dawis, 1969, p. 77) point out the importance of viewing both individuals and work organizations as unique, continually evolving entities whose attitudes, behaviors, and goals are perhaps more intimately interwoven than is readily discernable.

Discrepancy theories of job satisfaction. A number of work theorists (Locke, 1969, 1976; Porter, 1961; Porter & Lawler, 1968; Wanous & Lawler, 1972) examined worker-work interrelationships involved in job satisfaction in terms of discrepancies—comparisons that workers can make regarding their jobs. The idea was derived in part from work-related psychological research (Caplan, 1971; French & Kahn, 1962). The failure to achieve person-environment fit (i.e., adaptation) is

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* By Koch and Steers' definition, job attachment "refers to an attitudinal response to one's job that is characterized by congruence between one's real and ideal jobs, an identification with one's chosen occupation, and a reluctance to seek alternate employment" (1978, p. 120).

"conceived as discrepancies between demands and supplies" (French et al., 1974, p. 317), and this failure leads to dissatisfaction. In terms of worker-work "fit," discrepancies are also related to differences between the "supply" and "demand" that a worker and the work environment create for each other:

> . . . actual discrepancies between job and man [sic] are a source of perceived discrepancies between what a person would like his job to be and what he perceives it to be. The perceived discrepancies are in turn used prominantly as a measure of job satisfaction. . . .[*] (Sorensen & Kalleberg, 1973, p. 7)

Locke (1969) proposed that "only unfulfilled desires can cause dissatisfaction, and that satisfaction is the result of a comparison between fulfillment and desires or ideals" (White, 1977, p. 29). Emotional responses related to work reflect a dual judgment: (a) the *discrepancy* (or relation) between what an individual wants (including how much he or she wants) and what the individual perceives him- or herself as getting; and (b) the *importance* of what is wanted (or the amount of what is wanted) to the individual. In effect, estimates of job satisfaction "reflect both percept- (or cognition-) value discrepancy and value importance" (Locke, 1976, p. 1304). This theory takes the approach that the difference between the job condition or reward that a person values (a "Would Like" item) and how close his or her present job comes to fulfilling the person's ideal for that condition or reward (an "Is Now" item) is a potent psychological factor in how that person perceives and reports his or her level of job satisfaction or dissatisfaction.

The equity issue is another perceptual element in people's feelings about job conditions or rewards. Even if a person perceives a valued condition or reward as close to his or her "ideal," what the person believes is a "fair" level of that condition or reward depends a great deal on how much of it other persons in similar jobs, with similar responsibilities, are getting. Therefore, job satisfaction is measured by the discrepancy between a "Should Be" item and an "Is Now" item, as proposed by Porter and Lawler (1968).

Both the equity discrepancy and the ideal-value discrepancy approaches seem to be important in evaluating perceptions of job satisfaction. As Wanous and Lawler (1972) point out, "It is not difficult to imagine people who believe their job is not 'right for them' because it is quite different from their desires but who also believe that the job provides fair or equitable outcomes for the inputs required" (p. 97).

Wanous and Lawler took a more inclusive approach to job satisfaction, proposing that satisfaction depends on the degree of discrepancy between the importance a worker attaches to a work condition or reward (an "Importance" item—which includes perceptions of both equity and ideal value) and the worker's perception of how closely the current job is meeting the work condition or reward (an "Is Now" item).

In an extensive review of job satisfaction literature, Locke (1976) "combined the most defensible aspects" of the many theories, hypothesizing that:

> . . . job satisfaction results from the appraisal of one's job as attaining or allowing the attainment of one's important job values, providing these values are congruent with or help to fulfill one's basic needs. These needs are of two separable but interdependent types: bodily or physical needs and psychological needs, especially the need for growth. Growth is made possible mainly by the nature of the work itself. (p. 1319)

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[*] Discrepancies of fit are *indicators* of dissatisfaction, but are not *equivalent* to it.

In appraising the factors that various satisfaction models focus on, Locke criticized earlier categorizations of job dimensions, because most of them were based on factor analysis: "... this procedure leads to almost as many different factor structures as there are studies ... and this approach does not substitute for or even verify a conceptual analysis of job dimensions" (Ibid., p. 1301). Using an Event/Agent classification approach that linked—but did not confuse—the events or conditions of a job and the agents (human beings) involved in the job, Locke suggested the following classes of work environment factors (Ibid., pp. 1319-1328):

Events and Conditions

1. Work – including opportunity to use one's valued skills and abilities; opportunity for new learning; creativity; variety; difficulty; amount of work; responsibility; non-arbitrary pressure for performance; control over work methods and work pace (autonomy); job enrichment (which involves increasing responsibility and control); and complexity
2. Pay – including equity considerations
3. Promotion – including equity considerations
4. Verbal Recognition
5. Working Conditions – including comfort; safety; convenience of work location; aesthetics of surroundings, adequate tools and equipment; hours

Agents

1. Self – including level of self-esteem
2. Supervisors, Coworkers, and Subordinates – including functional job-related relationships and interpersonal relationships
3. Company and Management – including organizational policies

Locke also reviewed findings on how individual differences affect the interrelationships between job attitudes and job dimensions. These stem from variations in different workers' values, needs, and need levels for different aspects of work, producing variations in their perceived and reported job satisfaction(s).

The discrepancy concept is an important consideration in understanding occupational adaptability, because discrepancies relating to job satisfaction may function as stimuli to workers' adaptive behaviors. Further, individual differences in the perception of discrepancies may affect whether or not an individual worker initiates an adaptive response and, if so, at what "point" or under what combinations of circumstances the adaptive responses may be initiated by a particular person.

The job satisfaction dilemma. A number of problems have been noted by reviewers and researchers of job satisfaction theories. Satisfaction has been defined by various theorists as a function of psychological predispositions or demographic characteristics of workers, as a function of situational variables in the work environment, or as complex interactions of both. The relationship of job satisfaction to worker productivity has been questioned. The relationship of job satisfaction with occupational adaptability is likewise unclear; for instance, if a person has adapted successfully in his or her work situation, does that mean that he or she is experiencing job satisfaction? Or vice versa?

Job satisfaction theories rest on the belief that satisfaction can be measured objectively. However, there may be as many definitions of "job satisfaction"—and dissatisfaction—on any given day as there are workers to ask. For instance, Robert Shrank asks,

> What do we mean when we say that [people are dissatisfied with their jobs]? Some people are tickled silly with their jobs; some people hate them; some people hate them some of the time . . . some people just hate them on Monday; other people love them on Friday. (Discussion, 1979, p. 12)

Frederick Jacobs adds,

> . . . when 25 to 40 million people say that if they could change their jobs they would, because they don't like what they're doing, well, have you picked them on a day when they just found out they're not getting a raise, or they've been passed over for a promotion, or they've had a fight with the boss, or someone hasn't shown up for work? (Ibid., p. 13)

In an extensive review of job satisfaction measures, Wanous and Lawler (1972) examined nine operational definitions of job satisfaction, including Vroom's valence model, Porter's early (1961) discrepancy model, Lofquist and Dawis' needs fulfillment model, Porter and Lawler's equity/discrepancy model, and Locke's ideal/discrepancy model. The reviewers' conclusion was that "all the operational definitions of job satisfaction do not yield empirically comparable measures of satisfaction" (1972, p. 95). In other words, they are not really measuring the same thing.

There seems to be a number of types of feelings that people may call job satisfaction, or that influence how people respond to questions about satisfaction. For example, a person might report a general level of satisfaction with a job, and yet be strongly dissatisfied with certain aspects of it. Work that is described as routine and simple may be counted in an interview as a negative-satisfaction response, when "those 'negative' aspects of the job may, in fact, be the factors which attracted certain people to that environment in the first place" (Mount & Muchinsky, 1978, p. 99). Further, "It does not appear to be safe to assume that because two different measures are reported as measuring satisfaction, that, in fact, they are highly correlated" (Wanous & Lawler, 1972, p. 103). Wanous and Lawler did claim that "the data . . . suggest that it is possible to measure satisfaction validly with different job facets" (p. 105), as opposed to measuring overall satisfaction. Nonetheless, it becomes apparent that there is little useful consensus on what job satisfaction means or how it can best be measured.

The outcomes related to job satisfaction, particularly as seen from the work organization's perspective, have been found to be equally uncertain. The notion of a direct relationship between increased job satisfaction and worker productivity, which was an early impetus for organizations to attend to the adaptive needs of workers, was somewhat discouraged by the finding (U.S. Department of Labor, 1974) that no convincing evidence exists of a direct cause-effect relationship between job satisfaction and productivity. Productivity itself is inevitably linked to other factors that are external to the control of workers, including such conditions as the cost and availability of materials and resources, level of available technology, work flow design, and so forth.

Still, there are indications that "under certain conditions, improving . . . job satisfaction *will* contribute to productivity . . . [but] there is no automatic and invariant relationship between the two" (Katzell & Yankelovich, 1975, p. 12). Furthermore, when the definition of productivity is expanded beyond mere quantity of output (i.e., profitability) to less tangible features as quality of product, customer satisfaction, lower rates of absenteeism and turnover, minimized disruption, troublemaking, sabotage, and other components of labor cost, job satisfaction appears to have some measurable positive effects. There appear to be a number of related beneficial effects on non-work aspects of workers' lives, as well:

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> Job satisfaction, itself or in combination with the conditions (both in the individual and in the job environment) which bring it about, has a variety of consequences for the individual. It can affect his [sic] attitude toward life, toward his family, and toward himself. It can affect his physical health and possibly how long he lives. It may be related (indirectly) to mental health and adjustment. . . . (Locke, 1976, p. 1334)

The relationship between job satisfaction and occupational adaptability is nonetheless nebulous. The person dimensions and work environment dimensions that affect person-environment fit—which may, in turn, affect aspects of job satisfaction—probably also affect the range of potential adaptive responses that are useful in a given situation; that is, how a particular person may or may not respond to a given work situation in order to bring about a "better" (by the person's own standards) person-environment fit—or how a work organization might respond to encourage a "better" fit—depends on interrelationships between the characteristics of the person involved, and the opportunities and restrictions presented by the work situation. Certain characteristics of an individual worker may make the person more likely to respond adaptively in some ways than in others, and the characteristics of the work situation may encourage or discourage certain responses, as well.

Job satisfaction cannot be considered as the measure of effective adaptation, however. The many conflicting definitions and measurement problems cited earlier make job satisfaction inadequate or, more precisely, incomplete as a criterion. Occupational adaptability addresses issues of worker-work interrelationships beyond the scope of job satisfaction.

Adaptability may act as a means to achieving job satisfaction, but it does not guarantee it (as in the case of a person who is in a job that is personally meaningless, but who finds ways to adapt to it because of a lack of other options).* Adaptability addresses other goals as well. The ability to adapt may be vital in work situations where job satisfaction is not at all what the worker expects of the particular job; for example: in a temporary job where a person expects only to make money for college or for some other non-work-related desire or need; or, where the job is primarily a source of work experience or personal contacts, acting as a stepping stone in long-range career goals.

Another shortcoming of job satisfaction as a measure of effective occupational adaptation is that it focuses mainly on "the job." "In industrialized society, jobs are usually conceived of as entities separate from the individuals who occupy them" (Sorensen & Kalleberg, 1973, p. 1). If jobs can thus "be created and eliminated independently of who occupies them or may occupy them . . . we may legitimately ask questions about the degree of 'fit' between jobs and individuals" (Ibid., p. 7). Adaptation deals with the spectrum of worker-work interactions: career and job choice and initial job/career entry; day-to-day well-being in the workplace; transfers, promotions, and other job changes; transitions from school to work or from home to work; career changes; changes in personal priorities affecting or affected by work; changes in the content or context of a job or career; balances of work and leisure and their transitions; changes in the level of technology or in the national or local economic situation; etc. It seems, therefore, that the issue is not merely "fit" to a job, but fit to a *changing work life* as well as to life in general. This, in part, is the notion taken up by the Quality of Work Life movement. It is also receiving increased attention in career choice and career development theories, as well as in studies looking at occupational survival skills.

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* And, in some situations, dissatisfaction itself might actually be adaptive, especially as it serves as an impetus to do something about a dissatisfying situation.

The "Quality of Work Life" Movement

Beginning in the early 1970s, interest in worker-work interrelationships began to shift from a focus on job satisfaction to a broader focus on the overall quality of work life. The term "quality of working life" was introduced by Louis Davis and his colleagues (Davis, 1977; Davis, Cherns, & Associates, 1975), and refers to "the quality of the relationship between the worker and his [sic] working environment as a whole, and was intended to emphasize the human dimension so often forgotten among the technical and economic factors in job design" (Davis, 1977, p. 53). The quality of work life, though, appears to mean different things to persons or groups with different stakes in what work has to offer:

> To some, quality of work life refers to industrial democracy, increased worker participation in corporate decision-making, or a culmination of the goals of the human relations movement of two decades ago. To others, especially those in management, the term suggests any of a variety of efforts to improve productivity through improvements in human rather than the capital or technological inputs of productions. Unions and worker representatives often view changes in the quality of work life as leading to a more equitable sharing of the income and the resources of the work organization and to more humane and healthier working conditions. Alternatively, some union leaders suspect that management's efforts to improve quality of work life are little more than attempts to elicit higher productivity from workers without payment of higher wages. Finally, many view the quality of work life as closely related to, if not merely a broader and more up-to-date term for, such concepts as job satisfaction, humanizing work, or individualizing organizations. (Hackman & Suttle, 1977, p. 3)

Regardless of the particular perspective, there seems to be a general agreement that the concept of quality of work life addresses both the psychological well-being of workers, and societal and organizational concerns about the quality as well as productivity of work. In this sense, the concept of quality of work life is similar to, but fuller and more complex than, concepts of job satisfaction:

> The quality of working life is . . . a combination of job satisfaction, job involvement, and motivation, and the experience of balance between work and other aspects of a person's life. A person may be said to experience high quality of working life when he [sic]: (i) has positive feelings toward his job; (ii) is motivated to stay on it and do it well; and (iii) feels that it fits with the other requirements that life makes of him, i.e., as a family member, citizen, etc. (Katzell & Yankelovich, 1975, p. 414)

Changes in workers' attitudes toward work are one of the core issues in the Quality of Work Life movement. Twenty years ago, many workers seemed to feel that work was a necessary evil and little more than a means to an end. It was the prevalence of such attitudes that prompted Herzberg et al. (1959) to propose their motivator-hygiene theory, in which work environment factors such as adequate salary, job security, comfort and safety needs, and other extrinsic conditions provided by the work organization were seen as adequate to secure acceptable—though not motivated—performance from workers who expected little more as rewards. The attitudes of contemporary workers, however, frequently have different emphases:

> New ideas about success revolve around various forms of self-fulfillment. The emphasis now is on the self and its unrealized "potential," a self that cries out for expression, satisfaction, actualization. . . . The new consciousness about the self does not destroy the older definition of success as money and occupational status. But it diminishes the relative importance of "goods" to the individual. (Yankelovich, 1974, p. 25)

One of the problems related to poor quality of work life is that, too often, "the modern worker finds that not only is he [sic] unable to identify with and take pride in his product, he cannot even identify with his work. He is simply a payroll number, a cost, a kind of liability" (Bryan, 1973, p. 3). There is a demand, especially among younger workers, for meaningful work – "... work in which they can become involved, committed, and interested ... work that challenges them to the utmost of their capabilities ... [and allows] participation in decision-making" (Yankelovich, 1974, pp. 35-36). As Jan Margolis (1979) notes,

> People are not satisfied with symbols of conventional success. ... As a result, we have seen: a steady decrease in job satisfaction; a general decline in the value of work and an increase in the value of leisure as sources of meaning in life; and an increased desire to work in environments that enhance one's sense of self-esteem at the same time workers' perceptions of being treated fairly by the company or with respect, continue to decline. (p. 23)

Discrepancies between what contemporary workers claim to want from their work careers and what work organizations appear to be providing seem, in the quality-of-work-life perspective, to have far-reaching effects. Satisfaction, dissatisfaction, and apathy in the work place are not only related to an individual's adjustment on the job, but to his or her adjustment in life. Further, as workers' overall adjustments affect the energy and care they devote to their work, so does their work affect work organizations and society in general.

On the matter of adjustment in work and adjustment in life, Charles Winick has pointed out that "... inasmuch as work has such a profound role in establishing a person's life space, emotional tone, family situation, object relations, and where and how he [sic] will live, either the absence of work or participation in marginal work often makes it likely that he will develop a pervasive *atonie* [anomie]" (quoted in O'Toole, 1972, p. 6). Anomie, a sociological term, is synonymous with apathy–in effect, a feeling of disassociation, of resignation to a stiuation, with little energy or interest to invest in one's work or in improving the situation.

Apathy toward one's work is a limbo: "... not satisfaction, but not such unhappiness as to generate troublesome on-the-job behavior" (Strauss, 1974, p. 87). The problems associated with apathy, such as "blue-collar blues," may not be obviously "troublesome," but they are not insignificant.

> [Blue-collar] blues are associated with the possessor's conditions of life at work. But adequate and equitable pay, reasonable security, safety, comfort, and convenience on the job do not insure the worker against the blues. The potent factors that impinge on the worker's values ... are those that concern his [sic] self-respect, a chance for personal achievement and growth in competence, and a chance to contribute something personal and unique to his work. (O'Toole, 1972, p. 25)

A recent study of personal fulfillment (Kane, 1977) revealed that satisfaction with work and satisfaction with life in general are inevitably interdependent:

> A feeling of fulfillment depends on many things: your job, your family life, your outside interests. Only when you receive the satisfaction you want in *all* these areas are you likely to feel happy and fulfilled. ... Unhappiness in one sphere seemed to carry over equally to other areas. Individuals who were only half-satisfied with their jobs, for example, or with their home life, were usually no more than half-satisfied with their lives in general. (p. 33)

The implications are that improving the quality of work life could have positive effects on workers' feelings about their lives in general (and, of course, the opposite would also be true). Personal psychological success, seen by Argyris (1964) as a "mechanism for increasing self-esteem," is one aspect of broad human needs that may be particularly responsive to fulfillment via increasing quality of work life. Presumably, improvements in the quality of work life would affect human problems (such as alcoholism and other physical or mental health problems) that have been linked, in certain persons, to discrepancies in worker-work interrelationships.

Possible relationships between the quality of work life and societal concerns such as "the sagging vitality and health of America's economy and way of life" (Margolis, 1979, p. 22) have been receiving increased attention since the release of *Work in America* (O'Toole, 1972), the report of a special national task force appointed by the Secretary of H.E.W. to examine life in the work place. The national issue of rocketing inflation is partly the result of a gradual slow-down in the American economy, which has been linked in various discussions (e.g., Etzioni, 1979) to that bugaboo of quality of work life, the discrepancy between what workers want from their jobs (e.g., meaningful work) and what their jobs have to offer.

> Low productivity has been blamed variously on affirmative-action programs (which require, in some instances, the hiring of less well-trained workers than others), excessive government regulation (which forces spending on worker safety and antipollution equipment), rising thefts from plants, the leveling-off of research and capital formation, and scores of other possible causes. There is, though, a strong possibility that the changing work ethic is a factor. ... If it is true that more and more workers are stoned on the job, would rather collect welfare than work, and, on the assembly line, are much more willing to allow it to break down—even to help it break down so that they can rest for a while—and if large numbers of people have begun to believe that hard work is unnecessary and even uncouth, the work ethic may indeed be waning. And *that* may be causing the productivity slowdown. (Etzioni, 1979, pp. 14-15)

While Etzioni blames the "waning work ethic" for productivity problems, his observation about assembly line workers hints at a different source of the problem: the frequent failure of work designs to take worker needs and expectations into account. This is a major focus of the Quality of Work Life movement. In Petty's (1978) opinion,

> Concern with improving the conditions and characteristics of work does not imply a desire to escape work responsibilities. Times have changed, but the great majority of Americans, be they young or older, affluent or poor, male or female—would prefer work to welfare. (p. 8)

In fact, most managers and union officials "strongly reject the idea that 'work is a necessary evil' ... [and] believe that work should be a rewarding part of life, not a form of drudgery" (Katzell & Yankelovich, 1975, p. 16). Almost 9 out of 10 of the union and company policy makers surveyed by Katzell and Yankelovich went on to claim that even if improving the quality of work life were to have no effect on increasing productivity, they would still support improving the quality of work life.

The Quality of Work Life movement has been criticized for being too idealistic as well as impractically expansive in its approach. Indeed, no theories or models attempting to explain the factors or predict the patterns involved in the issue have come to the attention of this author in her literature search.* The general tone of the literature discussing the issue places responsibility for improving the quality of working life on managers, union leaders, and government action. The emphasis seems to be on making work organizations more responsive to individual needs and expectations by redesigning jobs and decision-making groups and by integrating new plant designs and new technologies with more participatory organizational structures.

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* Although Hackman and Oldham's Job Characteristics model (1977), intended for use in planning and carrying out changes in the design of *jobs*, addresses the organizational aspect of the quality of working life, in part.

The concept of the quality of work life must, at this point in its development, be considered primarily a philosophy of work, or perhaps a goal for which new theories of work might aim.* The notion of the inseparability of an individual's work experiences from his or her life adaptation is enough by itself to give impetus to further study, even in view of the complexity and elusiveness of the concept. Whether there is theory to guide it or not, however, Bass and Ryterband (1973) predict that "... there will be increasing psychological and social pressures within organizations to minimize loss of humanity, creativity, and morale" (p. 138)—in other words, to attend to the improvement of the quality of work life. And, as Levitan and Johnston point out, "The egalitarian ideal of enjoyable work for all may be unattainable, but a just society should aspire to no less" (1973, p. 41).

Adaptation and Theories of Occupational Choice and Career Development

The four work theory movements discussed in the preceding section—Human Rewards, Human Resources, Job Satisfaction, and the Quality of Work Life—deal primarily with worker-work interrelationships as they exist *within* work situations. Most of the theories deal only peripherally with the initial match-making between people and occupations, and deal hardly at all with issues of career development—preparing for and moving through a series of jobs or work roles in pursuit of a chosen career or careers.

On the assumption that "... a fit between the goals of a particular individual and the goals of a particular organization typically begins with the selection process" (Porter, Lawler, & Hackman, 1975, p. 131), theories of occupational choice and career development examine the factors and processes involved in decisions people make about moving into, between, or out of jobs and occupations. Obviously, the probability of an individual's achieving his or her work-related goals—as well as facilitating his or her adaptability in work environments—is greatly enhanced if the person is able to recognize and move into "the right job" or the "best" series of jobs for his or her current needs or desires.

The selection and career progression process was formerly thought to stem ideally from one major decision point: when a person selected and embarked on a career upon exit from schooling. The reality of increased occupational mobility, both voluntary and involuntary, have made the selection process reiterative for many workers.

> ... Change must be central to any account of the person's relationship to a job. ... Career lines are not forged absolutely through the process of simply joining an organization or selecting an occupation. Rather, the nuances of membership, participation, and progression are always in various stages of revision and negotiation. People change, as do organizations. Thus, a study of careers is a study of change. (Van Maanen & Schein, 1977, p. 33)

The continuing high rate of change is what binds vocational choice and career development studies more closely together, and links them inevitably with the need to understand occupational adaptability.

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* The heuristic model of occupational adaptation proposed in Chapter V does, in fact, address the concerns of the Quality of Work Life movement.

It is possible to think of occupational choice as a component of career development in that occupational choice involves making an initial decision about work upon which career development will usually then follow.* That is, occupational choice addresses the problem of initially matching a person with an occupation (which frequently has a defined career ladder, or at least a cluster of related occupations into which a person may subsequently move), and career development deals with problems and decisions of the subsequent transitions in the person's career ladder or job changes. It should be recognized that there is not a set "norm" for job or career progression, however. Many younger workers, for instance, tend to "shop around" among different kinds of work, and some of them do not seem to be "settling down" into any particular occupation. Another example is the upsurge of mid-life career changes, and yet another—later entry into second careers—is being stimulated by earlier retirement from first careers as well as by growing numbers of older workers and displaced homemakers looking for jobs after long absences from the work world. The value of occupational adaptability to these people is readily apparent, and in the sections that follow, theories of occupational choice and career development will be examined with that in mind.

Theories of Occupational Choice and Career Development

A fundamental assumption upon which every casual notion or formal theory of occupational choice or career development is based is that there is "... some more-or-less optimal plan, course of action, or decision which ... [a potential worker] can make, that there are square pegs and round holes, that there is a correspondence between persons and occupations which makes some better suited to each other than other combinations" (Zytowski, 1970, p. 2). The various theories each have their own ideas about how this correspondence between person and occupation is to be achieved, and they each perceive different dimensions of person and/or occupation to be the most important ones in achieving the "best" match.

The term occupational choice is generally used to mean "the process of selection among occupations. The chosen occupation is the result of this process and is the occupation that the person is attempting to enter" (Vroom, 1964, p. 53). The *selection* aspect is important in that it involves decision (i.e., compromise among options) and long-term commitment. It is not the same as occupational preference, which is the kind of work a person might like to do for a living "if all things were possible." It is also not occupational attainment, which is the particular job that the person actually acquires—and which, for any number of unforeseen reasons, may not end up having much to do with the occupation the person originally selected.

Models of career decision-making (Fletcher, 1966; Kaldor & Zytowski, 1969; Katz, 1963; Tiedeman & O'Hara, 1963; Vroom, 1964; and others) employ concepts similar to psychological decision theory in that they all seek "to describe in an orderly way what variables influence choices" (Edwards & Tversky, 1967, p. 7). The models all make assumptions about: (a) the amount of information available to decision makers, (b) conditions of risk or uncertainty in making decisions, (c) alternative decision strategies, (d) the precision in combining information to make a commitment, and (e) the relationship between values and subjective probabilities regarding anticipated outcomes (Jepson & Dilley, 1974, pp. 338-340).

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* In fact, several reviews of influential theories of career development (Crites, 1968; Holland & Whitney, 1969; Osipow, 1968) include occupational choice theories.

Information—where it comes from, how much is available, how accurate it is, and how much importance and credence an individual ascribes to it—affects a person's choice of occupation as well as subsequent career development, because "... people's tendencies to perform an action are influenced by their beliefs concerning whether they can perform the action, by their beliefs concerning the consequences of doing it, and by the attractiveness of the outcomes associated with doing it" (Porter, Lawler, & Hackman, 1975, p. 139). Pertinent information seems to cluster into three categories: (a) information about the person trying to make the choice, (b) information about occupations, and (c) information about external influences on persons, occupations, and work organizations. Theoretical approaches to determining which information is most important in career-related choices—and why—seem to fall into three main groups: psychoanalytic approaches, sociological approaches, and psychological approaches.

Psychoanalytic theories of occupational choice (Bordin, Nachmann, & Segal, 1963/1968; Brill, 1949; Hendrick, 1943) emerge from Freud's notion, discussed by Erikson (1950), that the ability to work effectively is as significant as the ability to love in the psychological health of a human being. According to Brill (1949), physical and mental abilities play only a partial role in the kind of career a person chooses; rather, it is the individual's personality and unconscious motives that "lead him [sic] to choose a career in which he may satisfy, through sublimation, his basic life impulses" (Osipow, 1968, p. 91). Bordin and his associates (1963/1968) took a somewhat different tack, instead analyzing occupations to determine what kinds of "gratifications"—in primarily Freudian terms—different occupations afford. From this analysis, one "could hypothesize the measures of personality or childhood experiences which would give rise to needs gratified by participation in the occupations" (Zytowski, 1970, p. 83).

Nachmann (1960) tested psychoanalytic hypotheses about the effects of childhood experiences on the development of needs relating to different occupations, but her findings, while superficially supportive of the idea, "might have been influenced more by the current events in ... [her subjects'] lives than by the childhood events influencing current behavior" (Osipow, 1968, p. 106). The hypothesis that identification and conflict with parent figures influences a person's occupational choice was examined by Crites (1962), Erikson (1950), and others, and the general consensus was that "identification with a parent or adult model is important indirectly in the vocational choice process, but no direct relationships have been demonstrated ..." (Osipow, 1968, p. 110).

The major criticisms of psychoanalytic theories of career-related choice echo problems mentioned earlier in this paper, namely, that psychoanalytic theory in general is based on the study of pathological rather than healthful mental states, and that there is a serious tendency to minimize the role of environment (other than of parent figures) in human behavior. The psychoanalytic theories of career-related choice also seem to focus on the initial selection of an occupation without regard to subsequent career development and choices. These problems limit the utility of psychoanalytic theories of occupational choice for understanding the dynamics of occupational adaptability, though psychoanalytic theory may have value in helping to determine individuals' more basic tendencies and patterns of adaptation.

An opposing approach to occupational choice and career development stems from sociological theories (Blau, Gustad, Jessor, Parnes, & Wilcock, 1956/1968; Caplow, 1954; Hollingshead, 1949; Krumboltz, Mitchell, & Jones, 1976; Miller & Form, 1964), in which the main assumption is that "elements beyond the individual's control exert a major influence on the course of his [sic] entire life, including his educational and vocational decisions" (Osipow, 1968, p. 200). Caplow (1954) echoed the parental-identification concept of psychoanalytic theory in noting that, for males, a son either follows in the occupational footsteps of the father, or at least the father's career and lifestyle impose rigid limits on the variety of careers his son may consider. However, this is true only for societies in which occupation is hereditary, and Caplow notes that this is no longer a powerful force in American society (which is ideally a meritocracy). Also, the parental effect on vocational choice is seen as being socially imprinted by forces external to the individual (e.g., reinforced by the society in general), and is not the result of unresolved psychological conflicts.

Sociological theorizing in occupational choice and career development has focused mostly on the influences of social class and other demographic factors. Hollingshead (1949) examined patterns in the roles that social class plays in human development in general, and in work in particular, and found that membership in an occupation both influences and is influenced by social class membership. Miller and Form (1964) investigated differences in expectations of work stemming from social class membership, and found that ideas of "acceptable" occupations, expectations of work, and standards of success in work differed significantly among the classes and had strong effects on occupational choice. Krumboltz, Mitchell, and Jones (1976) postulated that role models and patterns of reinforcement are pivotal in social learning, which in turn plays a large part in people's perceptions of their own career possibilities (also see Krumboltz, Becker-Haven, & Burnett, 1978). Likewise, membership in various demographic groups distinguished by sex (Barnett, 1975), race (Sewell & Martin, 1976), and authoritarianism (Weller & Nadler, 1975), and others, is seen to shape work role expectations, occupational choice, and subsequent career development.

Blau et al. (1956/1968) took a step toward linking sociological perspectives with psychological perspectives by devising a "conceptual framework" that proposes that occupational choice and career development are influenced both by individual characteristics and by social and other external influences. The pertinent factors characterizing individuals include biological conditions, personality development, sociopsychological attributes (such as knowledge, abilities, educational level, social position, and orientation to occupational life), as well as immediate determinants (occupational information, technical qualifications, social role characteristics, and reward value hierarchy). External determinants include physical conditions (such as resources, climate, and location); trends in social mobility, industrial composition, social organizations, and consumer demand; socioeconomic organization in the society; and, immediate occupational-opening determinants, such as demand, functional requirements, nonfunctional (informal) requirements, and types of rewards.

It seems reasonable that most of the sociological factors mentioned in these theories affect how (and why) people restrict the occupational options from which they feel they may choose. The prospects for easier adaptation are probably related to how strong certain kinds of external barriers (both formal and informal) are perceived to be by the person making selections. "The ability of the situational context to exert an influence on behavior is well known" (Osipow, 1968, p. 209).

It should be noted here that "what is claimed as the essence or critical function of a particular career is sometimes little more than rhetorical justification for occupational status and prestige, an ideology bearing little relationship to what the individual actually does within the career" (Van Maanen & Schein, 1977, p. 43). External-environmental considerations such as geographic location, climate, and economic factors most certainly affect occupational choice, but perceived restrictions stemming from membership in certain classes or demographic groups may be losing influence, and the status quo may no longer be as dominant a force (as witnessed by Affirmative Action and other antidiscriminatory policies and legislation, by continuing lateral mobility in both directions among career-changers, and by the movement of women and minorities into nontraditional roles). The effects of changing social values can be detected, but the role of individual (i.e., personality) differences in occupational choice and career development must also be considered.

An important class of psychology-based theories are the differentialist theories (Holland, 1959, 1966, 1973; Hoppock, 1957; Hornaday & Kuder, 1961; Strong, 1943; and others), which focus on individual differences involved in career choice. They also consider the relationship of career choice to work satisfaction:

> Satisfaction and stability of occupational choice (and, by implication, the career) are judged . . . by the *congruence* between the descriptions of the job and of the person who performs it. Thus, patterns of ability, interest, style, and disposition, which are seen to be shaped early in life, are to be matched to the personal characteristics that seem to be required in a given occupation. By and large, the differentialists have ignored the origins of differences and have concentrated on measuring them in early adulthood. (Van Maanen & Schein, ibid.)

An early differentialist theory was Hoppock's (1957) extension of a needs approach to occupational choice, in which he assumed that "occupational activities are related to basic needs and that the adequacy of occupational choice improves as people are better able to identify their own needs and the potential need satisfaction offered by a particular organization" (Osipow, 1968, p. 154).

Another grouping of differentialist theorizing, called trait-factor theories, did not examine needs concepts, but instead assumed that "a straightforward matching of an individual's abilities and interests with the world's vocational opportunities can be accomplished and, once accomplished, solves the problem of vocational choice for that individual" (Ibid., p. 10). Two separate efforts evolved from this point of view. One involved attempts to set up useful job classification systems to which worker traits (conceived of as innate and stable qualities) could be matched; this will be discussed in a later section. The other effort concentrated on defining and measuring worker traits, and evolved into the vocational testing movement, on which interest inventories and aptitude tests (e.g., Strong Vocational Interest Blank, Kuder Preference Record, Differential Aptitude Test, Guilford-Zimmerman Aptitude Survey, etc.) are based.

Holland's theory of occupational choice (1959, 1966, 1973) is based on the notion that most people think about work in terms of occupational stereotypes, and that people "project their views of themselves and the world of work onto occupational titles" (Osipow, 1968, p. 39). It was Holland's contention that characteristics of individuals and characteristics of occupations can be described—and therefore matched—in terms corresponding to personality types, and that "the process of career decision making and career choices are aimed at finding the best fit between individual characteristics and the work environment" (Stump, 1976, p. 10).

Holland divided potential workers into six personality groupings: Realistic, Investigative, Artistic, Social, Enterprising, or Conventional. Work environments are seen as divisible into the same six categories, because job environments are characterized primarily by the personalities of the workers holding the jobs—and hence occupations—within them. This is based on a "birds of a feather" assumption; that is, persons of certain personality orientations have similar motivations and develop similar abilities as others of that same personality orientation, and they will tend to congregate in occupational groupings that make use of those characteristics.

There are a number of weaknesses in Holland's theory, not the least of which is his classification scheme, which seems to "force occupations into particular classifications" (Blau et al., 1956/1968, p. 158). Another problem is that ". . . occupational groups tolerate wide personality differences among their members, and the attempt to guide individuals into occupations exclusively on the basis of personality styles is fallacious" (Zytowski, 1970, p. 79). Finally, there are problems with the assumption that traits predictive of occupational choices in the 1950s are those predictive in 1980. Still, the overall occupational adaptability of an individual is probably enhanced by entering an occupation in which the other workers and the work being done are congruent with the individual's own personality and interests. According to Mount and Muchinsky (1978), in their test of Holland's theory,

> ... the findings are consistent with the assumptions derived from Holland's theory concerning the outcomes of pairing persons and environments. People are more likely to be satisfied with most aspects of their jobs when they are among people whose tastes, talents, and values are similar to their own and when they are performing tasks which they like to do. (p. 96)

A second important class of psychology-based career theories is labeled the developmental perspective (Ginzberg, 1952; Ginzberg, Ginsburg, Axelard, & Herma, 1951; Roe, 1956; Roe & Siegelman, 1964; Super, Starishevsky, Matlin, & Jordaan, 1963). It is actually a kind of hybridization of occupational choice theories and career development theories, in that occupational choice is seen as a pivotal—and sometimes recurring—process or component in a work history or developing career:

> ... occupational choice is not something that occurs at a specific time, but rather ... represents an evolving sequence of individual decisions. Choice, from this standpoint, is a more or less irreversible process of limiting decisions that begins with an individual's first childish fantasies about work and ends with his [sic] reflections on retirement. (Van Maanen & Schein, 1977, p. 41)

One of the first theories along this line was that of Roe (1956; Roe & Siegelman, 1964), who proposed that an individual's genetic background and early childhood experiences affect his or her abilities and interests, as well as the development of his or her own particular needs hierarchy (borrowing mostly from Maslow's work). These factors "combine to influence the selection of a vocation, as part of their effect on the total life pattern" (Osipow, 1968, p. 17). That is, abilities and interests stem from genetic determinants, and needs and needs hierarchies stem from the modes of childrearing to which the individual has been exposed. Both of these then interact to determine the degree to which the individual is oriented toward persons or not toward persons. Roe believed that the degree of person-orientation could be linked to certain groups and levels of occupations.

A major problem with Roe's theory is that "it suffers from incompleteness in analyzing the basic personal dimensions relevant to occupations and requires much more specificity in stipulating formative experiences" (Bordin et al., 1963/1968, p. 159). Another shortcoming is that Roe does not deal with adjustment (adaptation) processes involved in later career decisions, nor with changes or maturation in adults.

Ginzberg's approach (Ginzberg, 1952; Ginzberg et al., 1951) proposed that "vocational choice ... is characterized by a series of compromises the individual makes between his [sic] wishes and his possibilities" (Osipow, 1968, p. 71). Regardless of the period of life in which career choices are made, four major factors are seen to be significant: reality factors, the influences of the educational process on the person, emotional factors that impinge on the person's vocational behaviors, and the person's values. A person's "successive vocational choices represent not only a reduction of the alternatives, but also increasingly realistic choices" (Zytowski, 1970, p. 15). In this sense, a person's work history (i.e., series of career-related choices) affects the person's future work-related values and expectancies, and the person's choices are as much influenced by the work world as they are by the person's original abilities, attitudes, and values.

Vroom (1964), Roe (1956), and others have criticized Ginzberg's notion that occupational choice is irreversible, but the element of compromise is one with which there is much agreement. As Ginzberg stated, "in seeking an appropriate choice . . . [a person] must weigh his [sic] opportunities and the limitations of the environment, and assess the extent to which they will contribute to or detract from his securing a maximum degree of satisfaction in work and life" (1952, p. 493). The notion of compromise and that of occupational choice and career development as a sequence of decisions both parallel ideas about occupational adaptation, which is seen as a dynamic set of responses intended to establish, maintain, or reestablish equilibrium between worker and work.

Super and his associates (Super, 1953, 1957, 1960; Super, Starishevsky, Matlin, & Jordaan, 1963) based their theory of "vocational development" on a number of earlier ideas: (a) differential psychology's notion of individual differences, from which Super "drew the assumption that any given man [sic] possesses the potential for success and satisfaction in a variety of occupational settings"; (b) self-concept theory, from which Super proposed that "vocational self-concepts develop on the basis of children's observations of and identifications with adults involved in work"; and (c) developmental psychology's notion of life stages (suggested by Buehler, 1933), from which Super concluded that "a person's mode of adjustment at one period of his life is likely to be predictive of his techniques of adjustment at a later period" (Osipow, 1968, p. 119). Adding the notion of career patterns (Miller & Form, 1964), Super proposed that any individual is qualified for a number of occupations, but "vocational preferences and competencies, the situations in which people work and live, and hence their self-concepts, change with time and experience . . . making choice and adjustment a continuous process" (Super, 1953, p. 189).

Super suggested a series of life stages: growth, exploration, establishment, maintenance, and decline. The nature of the career pattern (and hence of the continuing occupational choice process) generally follows the requirements of each of the life stages, and choices and behaviors that occur within them are determined by an individual's parental socioeconomic level, the person's mental ability, and his or her personality characteristics, as well as by the opportunities to which he or she is exposed. The goal of the process is seen as that of developing, implementing, and maintaining a self-concept, the relative success of which determines work satisfactions and life satisfactions. The concept of vocational maturity is a measure of "the congruence between an individual's vocational behavior and the expected vocational behavior at that age" (Osipow, 1968, p. 123)—which may function effectively as an overall measure of occupational adaptation, albeit a "normative" one (i.e., dependent on external standards rather than those of the individual).

Summary of Occupational Choice and Career Development Theories

The psychoanalytic, sociological, and psychological perspectives on occupational choice and career development address the interplay of human factors, occupations, and external influences in achieving and maintaining congruence between worker and work. The notion of work life—focusing on the long-range idea of *occupational* satisfaction and survival rather than the more immediate one of *job* satisfaction and survival—is particularly relevant to occupational adaptation. The relative power of an individual in pursuing his or her notion of occupational success is ultimately linked to the degree of control over what occupations the person is able to enter, and to the degree of control over where and when the person can make a job or career change.

The idea of recurring career choices (as opposed to a one-time occupational selection at initial entry to the work world) is important in understanding occupational adaptation, in that career-related decisions* are usually followed by behaviors intended to implement them. These behaviors in turn may involve disruptions (i.e., changes) in worker-work interrelationships, and subsequent necessary readjustments. This may be the case regardless of the type or significance of the decision to be implemented or the life stage at which it occurs. It may also be the case when the choice or decision cannot ultimately be implemented, because in reaching a decision, an individual anticipates that certain outcomes should ensue (i.e., expectancies); if they become unattainable thereafter, the person must then find some way to adapt, perhaps by lowering his or her expectations, or by reassessing the situation to determine what other choices and strategies are available to meet them.

Most of the occupational choice and career development theories concentrate on the subjective factors in work decisions (e.g., intrapsychic conflicts, social expectations, psychological needs, etc.) and, with the exception of the trait-factor theories, give only peripheral attention to the importance of skills and abilities. The section that follows examines the literature on work-related competencies, their components, their development and perishability, their utility (i.e., transferability across contexts), and the importance of "hidden" skills (e.g., transfer skills and adaptive skills) in the work world.

Research on Work-related Competencies

One of the most important factor areas in worker-work interrelationships involves the "know-how" factors—skills, abilities, and competencies used in work and careers. *Skills* and *abilities* are related in that abilities, which are used to accomplish an activity, are composed of the various skills needed to perform the tasks that comprise the activity. For example, the ability to live within a budget requires recording skills (e.g., keeping track of income and expenditures), computational skills (e.g., balancing a checkbook), analytical skills (e.g., identifying unnecessary expenditures), planning and problem-solving skills (e.g., generating ways to reduce expenditures or to increase income), decision-making skills (e.g., deciding which of the possible solutions to use), self-monitoring skills (e.g., recognizing an instance of potential poor judgment), and so forth. In effect, skills are the smaller "chunks" of which abilities are made.

Disagreement exists in the literature on the use of the term "skill," which is "confounded by the fact that some will restrict its meaning to discrete acts and others will include relatively complex behaviors in the definition" (Sjogren, 1977, p. 2). Also, in some concepts, a person either has a skill or does not have a skill, while in other concepts, skill carries the connotation of proficiency; that is, if a person knows how to do something, that is a learned behavior, and "skill" comes in when assessing how well the person performs the learned behavior.

Skill, as used in this paper, is conceived of as an interactive component that, along with knowledge and attitudes, underlies learned *behavior* (Pratzner, 1978). (Skills and abilities do not carry the connotation of proficiency, here.) *Knowledge* is used to refer to information, data, or understandings in the cognitive domain that are used to guide behavior. *Attitude* is used to refer to the affective (or emotional) domain, and concerns "a concept which a person has of something (such as a job), embodying in addition to a belief about its nature the elements of how much it is liked, or disliked, and whether one is disposed to approach or avoid it" (Katzell & Yankelovich, 1975, p. 414). Skills, knowledge, and attitudes are not the same thing as behavior, they are "inferred from observed behavior, and in combination . . . result in behavior" (Pratzner, 1978, p. 30).

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* It should be recognized that career-related decisions are often made in response to changes originally initiated within or between the person and/or the environment, and that adaptation may involve further changes made in an attempt to reestablish an equilibrium.

Competencies may be thought of as clusters of behaviors that have been developed to a level of mastery sufficient to achieve reasonably reliable outcomes when applied in appropriate situations. For example, the competency of using a telephone typically involves such behaviors as using a directory, dialing or punching the number, following social prescriptions for establishing (and terminating) a conversation, using language to communicate or elicit information or feelings, and so forth. A component behavior, such as using language to communicate or elicit information or feelings, would draw upon skills (e.g., enunciating clearly, speaking in complete sentences, selecting words to convey intended meaning, recognizing misunderstandings in what is communicated, keeping track of the conversation, ordering the thoughts logically, asking questions, explaining things clearly, etc.), knowledge (e.g., knowing a common language, knowing who to talk to, being familiar with social conventions for telephone and other conversations, knowing about different kinds of people and conversations and knowing what kinds of conversational styles to pursue, etc.), and attitudes (e.g., you are correct in having this conversation, a telephone call is the right way to have it, the other person is interested in what you have to say, the other person has something to contribute to the interaction, etc.).

Most of the research on skills, abilities, and competencies has been conducted from the perspectives of vocational counseling, education, and training needs in schools and industry. In relating skills et al. to work,

> . . . researchers have attempted to look at a job as the sum of a number of tasks or actions which the worker performs as he or she carries out the function of the job. Each job analysis system looks at a somewhat different variable of work, but all try to identify units or building blocks of work and form a complete definition of a job by adding its various units together. Jobs which have several units in common presumably fall into job clusters or families. (McKinlay, 1976, p. 5)

In a review of literature and research on *Characteristics of Jobs that Are Considered Common*, McKinlay (1976) discussed most of the extant job or occupation classification systems. Included were reviews of the third edition of the *Dictionary of Occupational Titles* (U.S. Department of Labor, 1965), Fine's Data-People-Things system of functional job analysis (Fine, Holt, & Hutchinson, 1975), the Occupational Analysis Inventory (Pass & Cunningham, 1975), and others. The reader is referred to McKinlay's paper for analyses of these various systems as they apply in skills-to-jobs analysis. Only McKinlay's conclusion concerns us here:

> Any review of occupations reveals an impressive array of skills and work settings. Some have substantial manual components—the traditional realm of vocational education—but many require special intellectual and/or social skills. Certainly the type and combination of skills differ among clusters, but even within clusters mobility seems to require skills in all three realms. (1976, p. 49)

Skills lists and skills classification schemes seem to be as numerous as the job classification schemes mentioned above. A number of them (Guilford, 1959; Spearman, 1927) attempt to identify the intellectual abilities that discriminate among individuals. Fleishman (1975) and Kibler, Barker, and Miles (1970) studied individual variation in psychomotor skills, and developed taxonomies of them. The *Dictionary of Occupational Titles* (U.S. Department of Labor, 1965) attempted to match its lists of occupational titles with a code system that described ways in which jobs required workers to deal with Data, People, or Things (using Fine's system) in order to determine the skills, or categories of skills, that are central to those elements of the jobs. Smith (1975) and Kawula (Kawula & Smith, 1975) identified skills that are generic to a large number of behaviors, and grouped them into

Mathematics, Communications, Interpersonal, Reasoning, and Manipulative skills areas (Kawula & Smith's list appears in Appendix A). The reader is referred to Sjogren (1977) for an indepth review of these and other skills classification schemes.

The Transferable Skills and Occupational Adaptability Program of the National Center for Research in Vocational Education has had as its mission the examination of occupational change issues and the importance of skills in the processes of change. A major research effort has been to determine what skills people need to deal with change in the work world, particularly where the worker changes jobs or careers, or the job or career changes over time. Initial research activities examined three sets of skills that seemed to be related to job change: (a) job-changing or job-getting skills, (b) transfer skills, and (c) transferable skills. Of these, the Program has focused mostly on transferable skills. The focus was recently broadened to include the concept of occupational adaptability, which is as crucial to success in dealing with work-related change as transferable skills.

The concepts of transferable skills and occupational adaptability are related to the notions of functional, specific content, and adaptive skills, which were discussed by Dunnette, Hough, Rosett, Mumford, and Fine (1973). Functional skills and specific content skills, when considered together, address competencies similar to those included in work-related transferable skills:

> The functional skills are the skills around which jobs are defined, recruitment organized, curriculum and mobility designed, and salary system scaled. . . . [Specific content skills] refer to those competencies that enable an individual to perform a specific job according to the standards required to satisfy the market. (Fine, 1974, pp. 287-288)

Adaptive skills, on the other hand,

> . . . refer to those competencies that enable an individual to manage the demands for conformity or change in relation to the physical, interpersonal, and organizational arrangements and conditions in which a job exists. . . . These adaptive skills are the ones most directly used to be selective within the environment. . . . (Ibid., p. 289)

These notions were useful in formulating some early definitions, but because they were primarily focused on *job* behaviors and dealt only superficially with changes in work or worker, research conducted by the Transferable Skills and Occupational Adaptability Program has resulted in refinements and expansions of the ideas.

Transferable Skills Research

Working involves taking knowledge, skills, and attitudes that have been learned in school, at home, in training programs, or in other situations (including on the job) and actually using them to perform some kind of task or activity required in a job. The way in which a person uses a skill on the job is almost never exactly how he or she learned to use it when it was first learned; the contexts differ, even if slightly, and the person must recognize that all or part of what he or she learned to do applies in the new context, and acts accordingly. Often, this requires the person to modify how the skill is used. Using a skill in a new context is *transferring* the skill.

Ellis (1965) gave the classic definition of transfer:

> Transfer of learning means that experience or performance on one task influences performance on some subsequent task. Transfer of learning may take three different forms: (1) performance on one task may *aid* or facilitate

> performance on a second task, which represents *positive transfer;* (2) performance on one task may *inhibit* or disrupt performance on a second task, which represents *negative transfer;* and (3) finally there may be *no effect* of one task on another, in which case we have an instance of *zero transfer.* Zero transfer can occur either as a result of no effect of one task on another, or as a result of equal effects of positive and negative transfer that cancel. (p. 3)

Transfer of a skill is affected by conditions other than similarity or dissimilarity of the contexts of performance. Skill perishability is one important factor: "Skills deteriorate, especially those that have been learned but not practiced" (McKinlay, 1976, p. 49). Hermann, Richardson, and Woodburne (1976) described four steps involved in skill transfer. Problems with any of the steps could affect the success of transfer:

1. Original learning of material and/or skill
2. Recognizing the relevance of the original learning to a new situation
3. Remembering the original material or skill
4. Applying the original learning to a new situation, i.e., problem-solving (Hermann et al., 1976)

Of course, problems in the motivational context would affect the success of transfer, as well.

Examination of these conditions of transfer have led to the notion of *transfer skills,* which are, according to the psychological literature (Altman, 1970, 1976), those skills and abilities needed in order to generalize learning or to detect and make appropriate applications of prior learning in new settings or under different circumstances (such as stimulus and response generalization, and perceptual and discrimination skills) (Pratzner, 1978, p. 25). In effect, transfer skills are those involved in the last three of Hermann et al.'s four transfer steps: recognition, remembering, and problem-solving.

In a general sense, transfer skills are applicable across a variety of contexts, and are thus transferable skills as well. In fact, as Pratzner noted, "All skills are potentially transferable to some extent and on some occasions" (1978, p. 1). Transferability, therefore, is used by the Program to denote a level of probable applicability across a spectrum of work-related (and non-work-related) contexts, as well as a level of proficiency that is dependent on the individual transferring the particular skill.

In investigating the roles of skills and skill transferability in facilitating changes in work, the Transferable Skills and Occupational Adaptability Program conducted a series of studies and commissioned papers, designed to add to the knowledge base on transferable skills. McKinlay (1976) examined job content and job classifications systems in order to help understand the contexts of skill transfer, and Sjogren (1977) examined the characteristics of occupationally transferable skills. Additionally, a list of skills that are applicable and transferable across a wide range of jobs was produced (Wiant, 1977). Another study looked at job tasks common across a variety of jobs (Ashley & Ammerman, 1978). Altman (1976), in a concept paper, conjectured about the motivational, behavioral, and contextual factors in the transferability of job-specific (i.e., job-task-related) skills. A selected group of 14 training and counseling programs was also reviewed (Miguel, 1977) to identify existing practices that appeared to take the concept of skill transfer into account and build upon an individual's prior skills and experience. Current program work on transferable skills is exploring the relationship between awareness of one's own transferable skills and job choice and satisfaction (Wiant, 1979).

While there appears to be "some reasonable consensus about a number of skills, knowledge, and personal characteristics that are important for success in a variety of occupations and other life settings" (Pratzner, 1978, p. 1), no single list of transferable skills will probably ever be useful for all possible settings. Brickell and Paul (1978) examined the lists located or developed by the Program, and by comparing and combining the "best" two (Kawula & Smith, 1975; Wiant, 1977; see Appendix A), organized some selected examples of the transferable skills into an illustrative list (Table 1).

TABLE 1

Selected Examples of Occupationally Transferable Skills

COGNITIVE

- Communications
  - Read and evaluate
  - Write technical reports
  - Speak fluently
  - Listen attentively
- Mathematics
  - Read graphs
  - Determine equivalents
  - Compute ratios
  - Solve word problems
- Reasoning
  - Develop classifications
  - Make decisions
  - Outline plans
  - Set priorities

AFFECTIVE

- Attitudes toward Work
  - Responsibility
  - Diligence
  - Determination/perseverance
  - Reliability
- Attitudes toward Others
  - Converses pleasantly
  - Reacts to others
  - Manages others
  - Gives praise
- Attitudes toward Self
  - Self-confidence
  - Self-discipline
  - Self-actualization
  - Assertiveness

PSYCHOMOTOR

- Measure distance
- Draw graphs
- Operate calculator
- Use senses

(Source: Brickell & Paul, 1978, Table 2, p. 22)

It should be noted that while transferable skills have been examined primarily as they relate to the world of work, "it would be misleading to limit them by the term occupationally transferable skills. They are actually . . . skills that have applicability in virtually every aspect and in every stage of life" (Ibid., p. 3). However, "having transferable skills will *not* guarantee successful adaptability" though they "should facilitate it" (Pratzner, ibid.). Adaptive skills (also called coping skills, occupational survival skills, or sometimes "careering" skills) are those that go beyond performing tasks or "getting the work done." Adaptive skills are necessary to what Hoyt (1977) called "changing with change," and they may be critical to the successful transfer of the more task-related skills as well: "To make good use of his [sic] functional skills in meeting the specific demands of any job, adaptation and accommodation must take place between an individual and the work organization" (Dunnette et al., 1973, p. 103)

Adaptive Skills and Abilities

Many of the problems workers encounter in getting and keeping jobs as well as coping with change in work are related to skills and attitudes that should be readily transferable. Somehow, though, many important abilities are often overlooked in the educational process or are not adequately developed there or elsewhere. For example,

> the 1975 Texas Statewide Employer Survey results showed very clearly that the majority of the problems being experienced by blue-collar workers lie not in the area of technical development but in a more elusive area, that of personality and overall adjustment to the work situation. . . . The obvious conclusion is that, while workers are acquiring their technical or vocational skills, they are not acquiring the other kinds of skills necessary to survive in the current work setting. (Craven, 1977, p. 32)

A number of small studies and training or counseling programs have attempted to identify the non-task-specific skills et al. deemed important to occupational survival and/or success. A survey of educators and employers was conducted by the Occupational Survival Skills Project at the University of Illinois (O'Neil, 1976). From an initial list of over 500 skills, 27 basic occupational survival skills were confirmed, clustering into (a) interpersonal relations and communications, (b) personal characteristics, (c) decision making and problem solving, and (d) job characteristics, health, and safety. The majority of the skills on the list are basic transferable skills (and attitudes) that are not specifically taught in most educational programs, or are not always taught in ways that facilitate their transfer to the work setting; examples are good work attitudes (e.g., "be dependable") and basic skills (writing, speaking, arithmetic, interpersonal skills, knowing how to use tools and machines, etc.). A number of the survival skills seem to go beyond the day-to-day tasks of "doing the job," though:

- Get along with people with a variety of personalities
- Know your own abilities, strengths, and weaknesses
- Make independent decisions
- Use initiative and imagination
- Work without close supervision
- Work under tension or pressure
- Adjust to various work situations. (Ibid., p. 6)

These skills do appear to address work problems or situations involving change that may be encountered in the continuing process of adaptation.

In his review of 14 exemplary training or guidance programs concerned with job skills, transfer problems, and other skills, Miguel (1977) identified five areas of skill development that are considered vital to dealing with change in work. Some of them include what we have called the basic transferable skills [recall, for instance, Kawula and Smith's (1975) clustering of mathematics, communications, interpersonal, reasoning, and manipulative skills], but others address skill areas that seem to be linked to adaptiveness:

1. Task performance skills common to occupations
2. Skills for applying broadly usable knowledge
3. Personal and interpersonal effectiveness skills
4. Self-analysis skills
5. Career management and productivity skills. (Miguel, 1977)

The skills involved in "applying broadly usable knowledge," the self-analysis skills, and the career management skills appear again and again in the exemplary programs' lists, and the clusters may be particularly important to occupational adaptability.

Skills for "applying broadly usable knowledge" appear to be much the same as those we have called transfer skills, and involve a number of abilities that facilitate the adaptation of knowledge (as well as skills) learned in one context for use in another:

- Ability to know where and how to access needed information
- Ability to commit knowledge to memory
- Ability to recall information accurately
- Ability to identify information needed for occupational tasks
- Ability to use knowledge in decision making and problem solving
- Ability to create new knowledge as a result of synthesizing existing knowledge. (Ibid , p. 14)

Transfer skills come into play when knowledge or skills must be modified in some way (i.e., indirect transfer) to fit a new context, and as such are indispensible to occupational adaptability. This has been recognized by Short, Dotts, Short, and Bradley (1974), who discussed the importance of the transfer skill of reorganizing:

> Many jobs and many school activities require students to respond in sequential fashion and to take things as they come, rather than *reorganize them in a new way.* * But there must be many jobs ... where it is important for the employee not to take things as they come, but to change his [sic] work strategy and rearrange tasks in his environment to perform the job successfully. (p. 67)

Some other important transfer skills in adaptation might include the ability to apply single and multiple rules to new examples, the ability to handle unstructured cues, and the ability to generalize.

In the area of self-analysis skills, Miguel (1977) found that successful adaptors "maintain a constant assessment of their skills and abilities and know when to make the most of them in their work. ... They seem to have an acute awareness of who they are, what they can do, and what they want to achieve in their careers" (p. 17). The importance of self-awareness in dealing with work-related change has been recognized elsewhere as well (Bolles, 1972, 1975; Crystal & Bolles, 1974; Pratzner, 1978; Westfall, 1979), and emphasis has been put on the equally important ability of analyzing and constantly updating one's own work and life goals. AT&T's Technical Management Preparation System (discussed by Peterson, 1979) takes notions of self-awareness and skills identification one step farther, adding that adaptive individuals not only define what they *can* do, they identify their "transition gaps"—what they need to learn or to learn how to do in order to achieve their adaptive objectives. (In a sense, this is a part of the adaptive attitude of learning-as-a-lifelong-process, which will be discussed later.)

Miguel (1977) noted two attributes in the area of career management skills that are related to occupational adaptability. The first is "organizational savvy"—also called "organizational climate analysis" (Schneider, 1972) or systems awareness (Datta, Note 1). This is "the ability to know how you fit into the organization, who the power people are, what obstacles can get in your way, how the reward system works, what others expect of you, how to get what you want out of the job, and how to keep from getting boxed in" (Miguel, 1977, p. 22). The second attribute Miguel noted is the ability to "unhook" from "previous relationships, experiences, and learning" (Ibid.) Miguel went on to add,

> the two terms that appear best to sum up ... work adjustment behavior are flexibility and adaptability. Both words, of course, imply behavioral responses to a changing array of human and situational demands, real or imagined, in the ... job environment. (Ibid., p. 20)

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* Italics mine.

The notion of "unhooking"—strongly related to "flexibility" and "adaptability" (the two words seem almost synonymous here)—is essential to understanding how adaptation can occur. Persons who have the ability to "unhook" or "unfreeze" their knowledge, skills, and attitudes are likely to adapt to work-related changes:

> The ability to detach or "unhook" oneself from previous mental or psychomotor frames of reference, and quickly adopt new ones as the situation requires, is one example of flexibility. Another instance might be the ability to generate a variety of alternative approaches or solutions to a problem when the traditional ones are impractical or impossible. (Ashley & Faddis, 1979a, p. 183)

Lewin (1951) and Schein (1961) researched patterns of adaptation, and proposed three phases —equivalent to "unhooking"—that describe how people change:

> 1. *Unfreezing.* A decrease in the strength of old attitudes, values, and behaviors. This results from new information or experiences that disconfirm the individual's perception of self, others, and events.
> 2. *Change.* The development of new attitudes, values, or behaviors through imitation of a model or through successful experimentation with new behaviors and attitudes.
> 3. *Refreezing.* The stabilization of change through supportive group norms, culture, or structures such as organizational policy, reward systems, and so forth. (Hackman & Suttle, 1977, p. 368)

Of course, the degree and duration of change need not be so extensive. For instance, Miller (1974) discussed the unhooking process in indirect skill transfer, calling the lack of the ability to unhook skills "content blocking." Content blocking occurs when an individual is unable to use his or her skills with new content or in a different context.

Only slight attention has been given in formal work theory to identifying the abilities germane to adaptation. Fine (1974) provided a tentative list: (a) management of oneself in relation to authority; (b) controlling one's impulses; (c) dealing with ambiguity; (d) moving "towards, away from, or against others;" (e) managing time (e.g., punctuality and self-pacing); (f) caring for property; and (g) dressing appropriately (p. 289). All of these abilities are important to success in the world of work, but not all of them deal specifically with change. A number of them are particular to adaptation, though. Management of oneself in relation to authority and moving "towards, away from, or against others" are related to interpersonal transferable skills, but they involve the use of those transferable skills in situations of coping with or bringing about change in work. Dealing with ambiguity, as we saw earlier, is an aspect of transfer skills, and may link up with decision-making skills as well.

An adaptive ability in Fine's list that was not mentioned previously, but is of considerable significance, is "controlling one's impulses." This is part of what Grinker (1974) called "maintaining satisfactory internal conditions" (p. xix)—that is, coping with stress. Lazarus (1979) has studied a number of ways of coping with stress, including denial, avoidance, repression, and the cultivation of hope; depending on the circumstances, use of these skills can be either helpful or counterproductive. Some "popular" techniques of coping with stress include meditation, yoga, daydreaming and other fantasizing, channeling stress into physical activity, etc. The ability to maintain some level of internal stability has also been linked to finding or developing a "sense of self that allows you to keep things in perspective even during moments when the job market [or the job] and the world don't seem to need you" (Westfall, 1979)

60

A sense of "futurism"—expecting and trying to anticipate change and accepting it as a reality (even a positive influence) in life in the long run—has been suggested as a vital attitude in dealing with situations requiring adaptive responses. Anticipatory (or extrapolative) skills allow an individual to keep an open mind and be ready for whatever contingencies may occur.

> Many different "futures" may develop out of the present moment in which we live. For that reason, we should explore a number of possible future worlds, not just a single "most likely" possibility. . . . The "alternative futures" approach opens the gateway to a future that we choose and shape rather than one that is simply thrust upon us when we have reached the appropriate moment in time. (Cornish, 1980, p. 6)

Cognitive skills are obviously needed both in occupational adaptation and in day-to-day work activities. Research on cognitive abilities has identified notions of "application" (Bloom, 1956) and "transformation" (Guilford, 1966) that appear to be important in knowledge and skills transfer and processes of adaptation. Unfortunately, "studies linking such [cognitive] skills to their application outside of school are few, though references to coping skills, life skills, and street skills which abound in discussions on how to improve the transition from youth to adulthood seem to merge the content of knowledge of the world of work with the higher functions of application, transforming, and learning how to learn" (Datta, Note 1). Further research is needed on cognitive skills (and styles) as they function in adaptation. In particular, investigation of the roles—and particular modes—of the decision-making, problem-solving, and information processing and sorting skills in adaptation are needed.

An equally important set of abilities in occupational adaptation are the learning-to-learn skills. Herbert Gerjouy has pointed out that:

> The new education must teach the individual how to classify and reclassify information, how to evaluate its veracity, how to change categories when necessary, how to move from the concrete to the abstract and back, how to look at problems from a new direction—how to teach himself [sic]. Tomorrow's illiterate will not be the man who can't read; he will be the man who has not learned how to learn. (Quoted in Toffler, 1970, p. 414)

The themes of learning-to-learn and of learning-as-a-lifelong-process appear over and over in most concepts of how to cope with life and work in the future (Ashley & Faddis, 1979a,b; Bolles, 1978; Nee, 1978; O'Toole, 1972; Toffler, 1970). As Nee put it,

> education is rapidly ceasing to be something that people do between certain years of their lives. Instead, it is . . . a life-long process. This recognition is bringing about new attitudes and practices which need to be identified and incorporated into our thinking and educational planning. (1978, p. 4)

Ashley and Faddis (1979a) add that not only is recurrent learning important,

> adaptable individuals . . . need to be proficient in a broad range of learning skills and approaches. Individuals differ in the ways they learn, and some learn better in one way than another. Also, some skills, information, and concepts are more easily learned when presented and practiced through a variety of approaches rather than through a single approach. (p. 183)

It might be added that some skills and knowledge may not be readily available through typical or traditional resources or learning techniques (e.g., informal on-the-job learning, or learning by observing the mistakes of others). As such, flexible learning approaches are even more vital.

Fine (1974), in his discussion of adaptive skills, conjectured that the adaptive skills are "those most distinctive in individuality." He explained,

> . . . it is likely that a person's conscious and subconscious awareness of these [adaptive] skills, which make up much of his [sic] feeling about himself, is the basis for his "yes" or "no" or "maybe" decisions about work and other activities. . . . When each one of us attempts to make a decision about an activity (e.g., a prospective job), we look over its specific content skill requirements and conditions, fundamentally, with our adaptive skills. As whole persons, we scrutinize the whole work situation. . . . If the estimate made by the adaptive skills is correct—"yes, this *is* the job for me"—then the situation can become a growth situation. If the estimate is not confirmed, then the worker withdraws; and if the job is accepted under constraint or with reservations, the worker is likely to make a nonproductive personal adaptation. (Ibid., p. 290)

A number of personality traits seem to affect the style of a person's adaptation, such as observations that "he's quick" or "she picks things up easily." Lofquist and Dawis (1969; Dawis & Lofquist, 1976) recognized this, and proposed four aspects of a *work personality style* that are particularly potent in occupational adaptation: (a) activeness—the propensity of a person to act on the work environment to achieve adaptation; (b) reactiveness—the propensity of a person to react to the environment by making internal adjustments, such as lowering personal expectations; (c) flexibility—as opposed to rigidity—is related to the parameters of an individual's toleration for aspects of the work situation, as well as for change; and (d) celerity—the speed with which an individual responds (either actively or reactively) to a situation requiring adaptation.* The first two aspects do seem to relate to individual styles of adaptation, but the latter two seem more useful in understanding levels of adaptive *proficiency*.

Also related to proficiency, and possibly a different aspect of adaptive flexibility, is the personality trait of creativity. In fact, most personal factors, such as intelligence, physical characteristics, the person's life and work history/experiences, and many other factors are as important to the individual's potential for effective adaptation as his or her specific adaptive skills, attitudes, and knowledge.

Maley (1978) seems to have summarized, in a general sense, most of the kinds of "broad human requirements" identified here as "associated with a future characterized by [change]":

(1) the ability to cope with new and different situations;
(2) the ability to anticipate and adjust to change;
(3) the ability to do critical thinking;
(4) the ability to inquire and make effective analyses of information;
(5) the ability to solve problems; and
(6) the ability to learn how to learn. (p. 2)

Add to these, (7) the ability to identify one's own strengths, weaknesses, and work and life goals, and (8) useful attitudes about change and one's own ability to deal with it, and we can begin to appreciate the importance and understand the complexity of adaptive behaviors in work and in life.

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* These concepts are intrinsic to an understanding of *how* people adapt, and will be discussed in detail in Chapter IV.

62

Understanding Factors in Occupational Adaptability

As we have seen, the literature on worker-work interrelationships clusters into five major groups: Human Rewards theories, Human Relations theories, Job Satisfaction theories, notions about the Quality of Work Life, and theories and research on Occupational Choice and Career Development. While each of the approaches is concerned with similar outcomes in the sense of maximizing "fit" between worker and work, each emphasizes different dimensions or groupings of factors as those of greatest potency in the interactions. From this multidisciplinary literature, a profile of the factors and interrelationships affecting adaptation in the work world begins to emerge.

Not surprisingly, occupational adaptation is concerned with much more than those factors involved in a person's immediate job. Jobs are roles that generally exist within the context of a work organization, and may be transitory in nature, from the perspective of either organization or individual. Occupations, on the other hand, may involve one job or many in a work life, and usually have an identity that transcends the context of organizations—may, indeed, be entrepreneurial in a very broad sense. Careers are even less identifiable in that they usually involve major chunks of a person's adult life, may involve one or many occupations and any number of individual jobs, may or may not follow definable patterns, and—whether preplanned or conducted opportunistically—tend to involve a degree of occupational mobility (even if only in the sense of moving through the ranks in a single work organization). In a person's work life, he or she may experience "work" purely as a job or sequence of jobs, may identify work as "occupation," or may think of it in terms of one or more careers.

Regardless of the perspective—or the outcomes of working desired or expected by an individual, a work organization, or a society—working involves almost constant adaptation, a "fusion process" (Bakke, 1953) that is a continual compromise or trade-off between the work environment and the worker, and that may be disturbed by any changes in the individual or in the environment. As Stern (1970) put it, the character of adaptation is

> . . . the function of the *total* person and the *total* environment at the given moment in time. In the broadest sense, then, this presumes that the adaptation will be unique for any given individual. (p. 8)

Factors of the individual person interact with those of the work environment, and both of them interact with the general socioeconomic context, such that any factor or set of interacting factors may act as an *opportunity* or a *restriction* on the potential of a given situation for a positive adaptive outcome. In addition, the initiation of an interaction between any factors or sets of factors, or the change of an established relationship between them, is a potential situation requiring an adaptive response. However, in some cases the interaction of factors may have no effect at all (neutral) on the situation or may cancel each other out. Factors seldom seem to act independently, and tend to be influenced by the other important factors in the situation, whether it is stable or in flux.

At this point it is possible to construct an overall profile of dimensions (derived from the reviewed literature) that describe the person factors, work environment factors, and external environment factors involved in occupational adaptation. Figure 1 gives a sample of factors contained within each dimension. The format borrows from a number of previous categorizations (Locke, 1976; Porter & Dubin, 1975; Porter & Steers, 1976; Vroom, 1964), and represents a useful arrangement for considering the many important variables.* In addition, in response to Locke's (1976) criticism that most such categorizations indiscriminately mix the *agents* of person-environment interactions and the *conditions or events,* those factors are set apart for the three dimensions described here.

1. PERSON DIMENSION (Agent = Self)	A. *Subjective Factors* (e.g., needs, values, attitudes, interests, aspirations, etc.)
	B. *Objective Factors* (e.g., age, physiology, transferable skills repertoire, adaptive competencies, education, life and work experiences, marital status and dependents, socioeconomic status, etc.)
2. WORK ENVIRONMENT DIMENSION (Agents = Coworkers, supervisors, clients, union, subordinates, professional peers, company and management)	A. *Occupation & Job Content Factors* (e.g., occupation, tasks, task variety, job autonomy, job responsibility, workflow, job complexity, degree of content-related "challenge" versus stress, utilization of motivated abilities, social service, etc.
	B. *Immediate Work Environment Factors* (e.g., work group size, working conditions, supervisory style, role clarity, recognition, feedback, etc.)
	C. *Organizational Factors* (e.g., pay and promotion policies, organizational size, purpose, goals, needs, hiring and firing policies, formal and informal structure, technology, etc.)
3. EXTERNAL ENVIRONMENT DIMENSION (Agents = Government and agencies, socioethnic groups, family and friends, media, educators and counselors, informal groups, peers, consumers, competitors)	A. *Economic Conditions*
	B. *Sociocultural Trends*
	C. *Government Regulations & Legislation*
	D. *Educational Institutions & Practices*
	E. *Climate & Geographic Location*

FIGURE 1. Profile of factors in occupational adaptation.

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* Another approach to systematizing factors that affect adaptation might be to use Bronfenbrenner's (1977) nested-topology approach to describing the "ecological environment"—microsystem, mesosystem, exosystem, and macrosystem—of human development. Person factors might be in the innermost circle, representing the individual, Work Environment factors might become the elements of the microsystem, etc.

The Person Dimension

The Person Dimension is divided into Subjective Factors and Objective Factors along the lines suggested by French et al. (1974), in which the objective person factors are those characteristics, traits, or abilities, etc., that make up the person as he or she "really is"; subjective person factors are those factors influenced by the person's perceptions, and involve the affective domain. While French et al. suggested that environments could be thought of along subjective-objective lines as well, the Work Environment Dimension and the External Environment Dimension are considered here primarily in the "objective" sense,* because their subjective existence is dependent upon the perceptions of the individual involved in the particular worker-work interrelationship; as such, objective factors are "filtered" through the affective perceptions—the subjective person factors—of the individual to "create" the subjective work environment and external environment. That is, the subjective person is the only valid interpretor of what constitutes the *subjective* work environment and external environment factors for his or her particular situation.

Subjective person factors. As mentioned above, these factors are the affective "filters" through which all other factors are perceived, evaluated, and responded to by the individual in the work situation. Lofquist and Dawis (1969) subsumed all of the affective factors into one domain, that of *needs,* but needs themselves may have hierarchies, and theorists differ on what constitute needs, both in life and in work. For instance, Argyris (1964) considered psychological success to be the central need related to work, while Vroom (1964) listed achievement, self-expression, affiliation, autonomy, self-esteem, security, and social status as work-related needs. Lofquist and Dawis (1978) made up their own list, grouping work-related needs under categories of safety, comfort, aggrandizement, altruism, achievement, and autonomy.

Related to needs (and part of individual personality) are other affective elements such as values, expectancies, attitudes, motivations, interests, and aspirations. Wanous and Lawler (1972) saw values as affecting the importance an individual attaches to his or her needs and the rewards available in work to meet those needs. French and Kahn (1962) saw deprivation of certain needs or values as acting as motivators. In answer to a criticism by Locke (1976), Lofquist and Dawis (1978) conjectured that values are actually second-order needs. Whatever the specific relationships may be, these affective elements seem to come into play in individual responses and evaluations in adaptational situations.

Both Vroom (1964) and Locke (1969, 1976) examined the importance of expectancies in job satisfaction, and it was also noted that expectancies directly affect perceptions of equity in the distribution of rewards in the work environment. Expectancies interact significantly with valences in Vroom's theory to create motivational force. Attitudes, which are concepts that "a person has of something . . . embodying . . . how much it is liked, disliked, and whether one is disposed to approach or avoid it" (Katzell & Yankelovich, 1975, p. 414), can be considered among the most visible manifestations of a person's feelings. Attitudes may have variable stability (Porter & Dubin, 1975), but are seen as extremely important in a person's tendency to act in a particular way in a given situation. Attitudes are included in some classifications of skills because they are so intimately related to a person's propensity (and proficiency) in using knowledge and skills. An individual's general work ethic (relatively stable) and his or her day-to-day feelings about a job are attitudes.

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* "Objective" is used here in the sense of "general consensus" (i.e., societally-reinforced) opinion of what constitutes "reality" regarding environmental factors.

Aspirations and interests seem to be positively related, especially in the context of work, and were considered by Phillips (1968), Porter and Steers (1973), and Lofquist and Dawis (1969), among others. Both factors are intuitively important in adaptation, although exactly *how* important is uncertain.

An individual's overall personality is composed of many factors that are intrinsic to his or her adaptive potential. Psychoanalytic literature is concerned with such factors as conflict resolution, ego identity, defensiveness, and levels of internal integration. Self-esteem, accessibility to self (Mechanic, 1974), self-concept, self-actualization, and level of personal growth (Porter, 1973) are also factors in what is frequently called maturity—another important aspect of an individual's adaptive potential. Naturally, an individual's mental health—particularly his or her inner stability—is critical. Roe (1956) gave considerable attention to the social aspect of personality, a person's orientation towards or away from others, in her theory of occupational choice. The notion of orientation may be important in how it affects the kinds of adaptive strategies an individual chooses to implement in a given circumstance (not forgetting, of course, that person dimensions are only *part* of an adaptive situation).

Lofquist and Dawis (1976) postulated four components of work personality style—those aspects of personality that are particularly influential in work—that presumably affect how a person responds in a work situation requiring an adaptive response; the components are activeness, reactiveness, flexibility, and celerity. Work personality structure, however, involves the interactions of an individual's sets of abilities and his or her sets of needs (Lofquist & Dawis, 1969). It may be at this intersection of subjective factors (needs, etc.) and objective factors (abilities, etc.) that aspirations, interests, and abilities combine most strongly to affect adaptation in the guise of "motivated skills." These factors, which are moderately important in motivation, may be powerful in decisions made about adaptation in work.

Objective person factors. The objective factors that make up an individual are those that, unlike affective factors such as values or emotions, can be readily observed and measured objectively and are not based on self-report. Examples are age, IQ, education, skills, etc. These attributes, "filtered" through the subjective (feeling-based) person, also affect the subjective person. Lofquist and Dawis (1969) subsumed all of the objective factors into the abilities domain, but many other objective factors influence the interaction of the objective (as well as the subjective) person with his or her environment.

Certainly relatively fixed characteristics of individuals have great importance for their adaptive potential. Roe (1956) proposed that genetic background is significant, and along this line, Lofquist and Dawis (1969) and Blau et al. (1956) also discussed the importance of biological conditions and physiology. Phillips (1968) discussed the role of intelligence, quoting Piaget (1952): "Intelligence is an adaptation . . . [whose] function is to structure the universe just as the organism structures its immediate environment. . . . Organization is inseparable from adaptation" (quoted in Phillips, 1968, p. 4). Sex, race, age, and stage of life (Sheehy, 1976; Super, 1953) continue to influence what workers may or may not do in the contemporary western work world.

Some stable or slow-to-change personal characteristics are also influential in worker-work interrelationships and occupational adaptation. They include socioeconomic status (SES—both past and current) (Blau et al., 1956; Miller & Form, 1964), number of dependents (Porter & Steers, 1973), and membership in various informal and formal groups (the "significant others"—such as family, friends, religion, socioethnic culture, community, informal groups, and other contacts). Some general situation factors include a person's accustomed lifestyle, financial stability and available capital, employment of other family members (Bryan, 1973), social isolation, and miscellaneous responsibilities or commitments.

Experiential or developmental objective factors include general life experiences (including one's adaptive behavior patterns and experiments), formal and informal education, work history (i.e., past vocational choices and career decisions) (Ginzberg, 1952; Ginzberg et al., 1951; Zytowski, 1970), vocational maturity (Osipow, 1968), and length of work service (Porter & Steers, 1973). Directly related are types and levels of knowledge—facts, methodologies, taxonomies, and other forms of information—that a person has available in memory (Blau et al., 1956).

Skill or ability types have been variously categorized, sometimes in terms of their transferability (as in some job classification schemes), but increasingly in terms of their utility or domain. While Altman (1976) found that all skills are theoretically transferable, employers consider some to be more transferable (in the sense of broad utility), especially in work, than others (Wiant, 1977). Skills differ, too, in their degree of fundamentality, so that the more general skills (especially the "basics" such as reading, speaking, hand-eye coordination, etc.) are thought to be more transferable (i.e., more useful across more situations) than the more specific (or context-linked) skills are. Proficiency as well as degree and recency of practice (i.e., current level of mastery) also affect transferability. Finally, transferability is affected by how different the context of skill application is from where the skill was learned or previously used (i.e., direct versus indirect transfer) (Ellis, 1965).

Transferable skills, as they are meant here, refer to those skills and abilities used in day-to-day performance of life- or work-tasks. Following Kawula and Smith's (1975) generic skills classification, transferable skills can be categorized as (a) mathematics, (b) communications, (c) interpersonal, (d) cognitive or reasoning, and (e) manipulative. Figure 2 represents the interactions of skill families, levels of fundamentality, and levels of proficiency (mastery) in potential skill transferability. (Presumably, the *actual* transferability of a skill in a given situation will depend not only on its *potential* transferability, but on personal and contextual factors as well.)

Adaptive skills and related components. Adaptive skills, as used here, refer to those skills used to deal with changes in the worker-work interrelationships. Adaptive skills are vital to an individual's capacity to make necessary or desired adjustments, whether by coping with change or the pressure to change, or by making change happen. Most skills labeled adaptive are important in the day-to-day performance of job or life tasks, as well as long-range ones, and there is an overlap between what are called adaptive skills versus the transferable skills. This is especially apparent in the cognitive skills family, which includes decision-making and problem-solving abilities, situational analysis skills, organizational skills, reasoning skills, and other abilities that are indispensible in dealing with change.

A number of skill areas (as well as special knowledge, attitudes, and personal characteristics) emerge from the literature that do deal primarily with adapting successfully in work. The adaptive skill areas include: (a) transfer skills, (b) learning-to-learn skills, (c) change skills, (d) energizing skills, (e) coping skills (affective), (f) self-assessment skills, (g) special mobility skills, (h) anticipatory skills, and (i) cognitive skills (which, as mentioned, overlap with basic transferable skills). Skills or abilities, whether transferable and/or adaptive, are intimately linked to knowledge and attitudes in that, together with other person factors, they result in adaptive and other behavior (Pratzner, 1978). Behavior, of course, involves the whole person, both subjective and objective, in interaction with the environment (as illustrated in Figure 3). Certain clusters of adaptive behaviors (e.g., hunting a job, scheduling one's work tasks, dealing with job pressure, developing friendships or alliances in the work setting to create a group identity, etc.), when developed to a level of mastery sufficient to achieve desired adaptive outcomes with reasonable reliability, may be thought of as *adaptive competencies.*

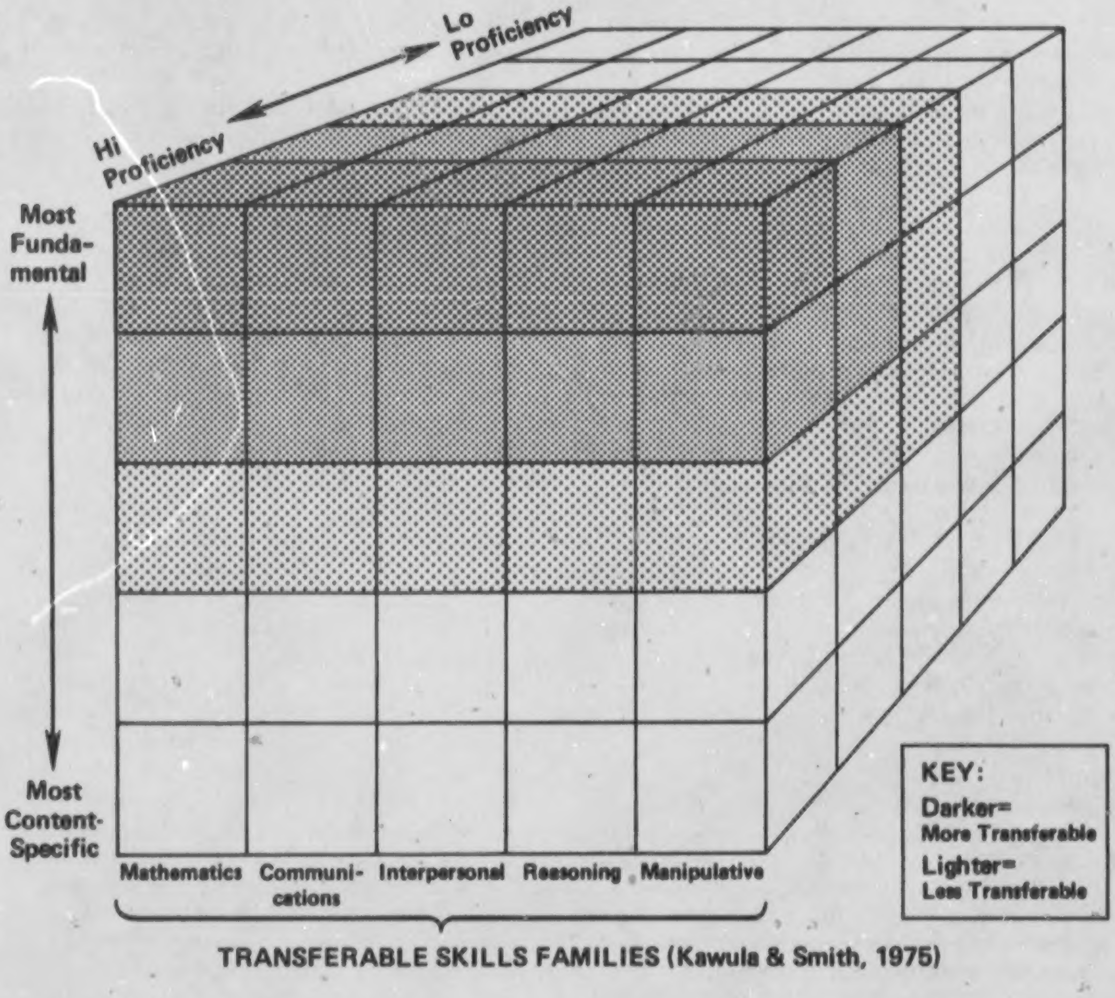

FIGURE 2. Levels of proficiency and fundamentality in potential skill transferability.

SKILL AREAS	ADAPTIVE KNOWLEDGE	ADAPTIVE ATTITUDES	RELATED PERSONAL CHARACTERISTICS
• Transfer Skills • Learning-to-learn Skills • Change Skills • Energizing Skills • Coping Skills • Self-assessment Skills • Anticipatory Skills • Special Mobility Skills	• Adaptational Self-awareness • Systems Awareness	• Learning as a lifelong process • More than one way or place of learning or doing things • Sense of futurism	• Work Personality Style • Self-esteem • Mental Health • Balance of Optimism and Realism • History of Adaptive Behaviors
"Cognitive Skills" (overlap with transferable skills area)			

NOTE: Adaptive abilities exist with and are equally dependent on an individual's repertoire of transferable skills and level of mastery, as well as the other components of the individual's subjective and objective self.

FIGURE 3. Adaptive skills and other components of positive adaptive behavior.

Transfer skills (Miguel, 1977; Short et al., 1974) may be thought of as a cluster of cognitive (and motor) skills, but except in those instances where transfer of knowledge or motoric skill (and, in some cases, attitude) is direct and requires no modification or restructuring, transfer skills inevitably involve change. Transfer skills enable indirect transfer to occur, and include other special abilities such as generalizing, synthesizing, identifying important versus unimportant information, dealing with ambiguity, and dealing with complex or multiple rules.

Learning-to-learn skills (Bolles, 1978; Nee, 1978; O'Toole, 1972; Toffler, 1970) are related to cognitive and transfer skills, but they relate more closely to dealing with change. Inevitably linked to their role in adaptation are several attitudes toward learning, including the notion of learning as a lifelong process, and the acceptance that there is usually more than one way or one place in which to learn.

Change skills, which Miller (1974) called "unhooking" skills and Lewin (1951) and Schein (1961) called "unfreezing-change-refreezing" skills, are those involving change of attitudes, values, or behaviors via what amounts to unlearning, mental or behavioral experimentation, reevaluation, and relearning. Included too are the "ability to generate a variety of alternative approaches or solutions to a problem" (Ashley & Faddis, 1979a), and skill in contingency planning (Hamburg et al., 1974).

A number of attitudes are intrinsic to proficiency in the use of change skills. One is the attitude that change is a real force that is neither intrinsically bad or good (McDermott, 1979), it simply occurs. At times it can be ignored effectively, but at other times it must be dealt with (Lazarus, 1979). Another vital attitude is that there is often more than one way to approach a problem (Short, 1979). Nee (1978) also suggests that an attitude of what he calls "futurism"—viewing the possible outcomes of situations in a long-range perspective as well as in terms of more immediate repercussions—is an important component. Its role in anticipatory skills is also readily apparent.

Related to change skills (and quite possibly a component of them, as opposed to a skill family on its own) are what we are calling "energizing" skills—in effect, skills that enable a person to respond to a situation and to bootstrap him- or herself into action, when appropriate, despite ambiguities or a lack of structure in the situation. This involves the use of what Scheele (1977) calls

> . . . a repertoire of known behaviors that are situationally responsive—approaches, retreats, gambits, viewpoints, experiments, ventures, and so forth. These behavioral skills are quite separate from the factual content of careers but apparently are valuable to the successful negotiation of the everyday actions and transactions that move us through careers. (pp. 196-197)

Also related to responsiveness are certain personality characteristics, such as the dimensions of Dawis and Lofquist's (1976) work personality style (i.e., activeness, reactiveness, flexibility, and celerity).

Coping skills are what enable a person to maintain "satisfactory internal conditions" (Grinker, 1974), that is, to stabilize one's emotional state by coping with stress. These internal balancing processes, also mentioned by Fine (1974), are strongly related to an individual's mental health and to his or her history of successful and unsuccessful coping in the past. A sense of self, of balance in one's life and work, of the necessity of compromise in life, and especially of self-esteem, are important here. So are certain personality traits, such as a good sense of humor, and a good balance of realism and optimism in one's outlook.

Self-assessment skills involve periodically analyzing one's strengths and weaknesses (Bolles, 1972; Crystal & Bolles, 1974; Miguel, 1977), defining one's "transition gaps" (Peterson, 1979), and, in anticipation of probable changes, setting (or revising) realistic personal goals. Attitudes of self-responsibility and self-motivation are influential, as well.

Anticipatory skills are those used in extrapolating possible alternative futures (Nee, 1978; Cornish, 1980). These are especially important for contingency planning as well as emotional preparation for dealing with change.

The special mobility skills are those used in making career or job changes (even if merely transferring from one part of a plant to another). They include job-seeking and job-getting skills, such as interviewing skills, resumé preparation skills, and use of alternative job-getting strategies (Crystal & Bolles, 1974).

Two particular areas of *knowledge* are considered essential to effective use of adaptive skills in the work world. One is self-awareness (Bolles, 1972; Crystal & Bolles, 1974), and the other is systems awareness—adequate and accurate information and "savvy" on work environment factors (Datta, Note 1; Miguel, 1977; Schneider, 1972). Knowledge of the existence and kinds of adaptive options—that there is often more than one solution to a situation involving change—is also important.

The Work Environment Dimension

Work environment factors are those constituting the context and content of jobs. These factors both influence and are influenced by the individuals who hold the jobs and the external milieu that affects them both. Finally, factors or agents within the work environment may affect each other, and thus the worker.

Work environment factors cluster into three areas: (a) Occupation and Job Content Factors, (b) Immediate Work Environment Factors, and (c) Organizational Factors. Occupation and job content factors are concerned with the identity of a job (its status, career ladder, social expectations, etc.) and what actual tasks and functions it involves. The place ("shop"), people, and interactions that make up the context in which a person performs a job are the immediate work environment factors. The organization in which the job exists, and the organization's characteristics, concerns, and policies compose the organizational factors. Agents in the work environment are those who interact with or whose actions affect the individual worker or work group.

Occupational and job content factors. Occupation-related and job content factors constitute one of the major work environment factor areas (see Figure 1, p. 56), all of which interact (along with external environment dimension factors) with the subjective and objective person factors in influencing occupational adaptation.

As mentioned earlier, "occupation"—or "profession" in some cases—carries an intrinsic group identity that transcends its existence as a job or jobs within work organizations (e.g., social status, white/blue collar status, opportunity for social service, implicit moral value). Occupations and professions often have implicit (and, as in the case of physicians, stated) purposes, values, ethics, and goals. These affect the member workers' sense of personal and group identity, role in society and in work organizations, and expectations in work. Koch and Steers' (1978) notion of job attachment is useful here. In turn, work organizations, coworkers, and fellow occupational-group members have certain sets of expectations of the member workers. All of these expectations interact in subjective ways to affect a person's perception of opportunities or restrictions in adaptive options in work.

Job content factors primarily concern job tasks—the activities involved in the doing of work. Usually, tasks are contained in the job description, though many tend to be implicit rather than explicit. Important in job content are not only the usual task-related activities, but the personal (nonmaterial) rewards that may or may not be available through the performance of the job activities. The personal, intrinsic rewards of job content are one of the main foci of the job satisfaction theories.

Job activity factors include task variety (Dawis & Lofquist, 1978; Hackman & Lawler, 1971; Locke, 1976) and task repetitiveness (Hoppock, 1935; Porter & Steers, 1973), two closely related aspects. Workflow, which involves the sequencing of tasks and the total amount of work (Locke, 1976), type and amount of activity (Dawis & Lofquist, 1978), and inherent fatigue and relative efficiency (Taylor, 1911) are also significant. Job complexity (Locke, 1976) and task identity—doing whole (as opposed to piecemeal) product creation (Hackman & Lawler, 1971)—are other factors.

Herzberg et al. (1959) linked job content factors with job satisfaction by postulating that intrinsic (nonmaterial) satisfiers are available only through performance of job activities, and are more satisfying (and motivating) than extrinsic ("hygiene") rewards, which are available through organizational and immediate work environment dimension factors. Three intrinsic factors were emphasized by Herzberg and his associates. The first is task control, also called independence by

Dawis and Lofquist (1978) and job autonomy by Porter and Steers (1973). Another is job responsibility, also discussed by Porter and Steers, Dawis and Lofquist, and by Locke (1976). The third factor is the challenge provided by the job activities; Locke (1976) related levels of difficulty in task performance to this factor. Equally important factors are the opportunities for creativity and self-expression provided by job content (Dawis & Lofquist, 1978; Locke, 1976).

The degree to which job activities allow the utilization of valued ("motivated") abilities was emphasized by Vroom (1964), Argyris (1964), Locke, (1976), and Dawis and Lofquist (1978). One other factor related to job content is the content-related level of stress involved in a job; for instance, in the service occupations, the job content of much policework is probably more frequently stressful than that of a professional plumber.

Immediate work environment factors. These factors relate to the immediate, or local, context in which a job is performed. The agents in the immediate work environment—that is, the persons or groups with whom the individual interacts—are highly important, as are certain situational variables and factors related to satisfaction or personal needs and expectancies.

Individual agents in the immediate work environment include one's coworkers, supervisors, clients, and subordinates; and agents acting as influential groups include one's work team, other work teams, and unions (where pertinent) (Dawis & Lofquist, 1978; Lewin, 1951; Locke, 1976; Mayo, 1945; Porter & Steers, 1973). These "significant others" affect one's opportunities and restrictions for adaptation in the immediate work environment in varying ways and degrees, according to the effects those others' personalities, expectancies, values, biases, roles, and competencies have on the individual worker and aspects of the work situation. A pertinent situational condition relating to agents is "pleasant interpersonal relationships" (Herzberg et al., 1959; Vroom, 1964).

Other situational or context factors in the immediate work environment have been investigated by Herzberg et al. (1959), who considered them to be hygiene factors as opposed to job satisfaction factors. Working conditions include comfort, safety, convenience of location, aesthetics of surroundings, adequate tools and equipment, and hours, as reviewed by Locke (1976). Herzberg et al. (1959), Hoppock (1935), and Dawis and Lofquist (1978) also emphasized the importance of the comfort and safety factors in the environment. Aspects of work groups or work units, including size, purpose, autonomy, specialization, role clarity, and authority were discussed by Porter and Steers (1973), Dawis and Lofquist (1978), and others.

Supervisory style in the immediate work environment is considered to be extremely potent in restricting or facilitating occupational adaptation (Herzberg et al., 1959; Porter & Steers, 1973; Vroom, 1964). Important aspects related to supervisory style include: nonarbitrariness (Locke, 1976); stability (Dawis & Lofquist, 1978); degree of permitted worker participation in decisions about work methods; pacing and other job-related factors (Locke, 1976; Vroom, 1964); as well as pressure for performance, verbal recognition, and accurate feedback (Hackman & Lawler, 1971; Locke, 1976; Vroom, 1964). Also frequently related to supervisory style on the local level (though sometimes built into the immediate work environment via company management and policies) are factors of job security (Dawis & Lofquist, 1978; Herzberg et al., 1959); of "position"—a status-related factor that is essentially informal and may or may not be dictated by one's job (Dawis & Lofquist, 1978); of opportunity for job enrichment through expansion of responsibility and individual control (Locke, 1976); and of opportunity for new learning (Ibid.).

Organizational factors. These factors affect workers in a top-down manner in most situations. The company (as an entity) and management (as its usual tool in dealing with its work force) are the primary agents.

Characteristics of work organizations have both direct and indirect effects on worker-work interrelationships and adaptation. These characteristics include organizational size (Argyris, 1973; Dawis & Lofquist, 1978; Porter & Steers, 1973); purpose (Argyris, 1973; Carlisle, 1973); structure —both formal and informal (Ibid.); and reputation (Dawis & Lofquist, 1978). Related factors include the organization's available technology and resources, such as its labor pool, capital, equipment, overall workflow, and plants (Carlisle, 1973; Dawis & Lofquist, 1978), and the organization's internal communications procedures and network (Argyris, 1973).

Less tangible but equally potent organizational characteristics include organizational goals, values, needs, and expectancies (Argyris, 1973), which are influential on policies and procedures affecting workers. Policy dimensions involve: pay and pay equity (Herzberg et al., 1959; Porter & Lawler, 1968; Vroom, 1964; and others); promotions and other mobility (Porter & Steers, 1973; Vroom, 1964; and others); work hours and other attendance policies (Vroom, 1964); management and administrative policies and styles—including technical and human relations supervision, and rewards and penalties policies (Argyris, 1973; Dawis & Lofquist, 1978; Herzberg et al., 1959); job classification, hiring, and firing practices (Dawis & Lofquist, 1978; Herzberg et al., 1959); training and educational reimbursement; and fringe benefit packages (Herzberg et al., 1959). In addition, external influences are highly influential on organizational characteristics, and are most readily visible in how they affect organizational policies and practices; these are discussed next.

The External Environment Dimension

External environment factors are those composing the context or "world" in which people and organizations exist. These factors do not actually exist in separate compartments of the overall environment, but are intimately interconnected both in the ways that they affect each other and as they affect individuals, groups, organizations, and institutions. In regard to the agents through which external environment factors influence workers and work, all of the agents affect both workers and work organizations to some degree, but some have more direct effects on individuals than on organizations. For instance, family, friends, socioethnic groups, and informal groups probably have more direct influence on individuals, while consumers, competitors, and government agencies have more direct influence on work organizations. Educators and counselors have significant impact on both individuals and work organizations, as does the media.

For convenience, the overall environmental context has been separated into factor areas of (a) Economic Conditions, (b) Sociocultural Trends, (c) Government Guidelines and Legislation, (d) Educational Institutions and Practices, and (e) Climate and Geographic Location.

Economic conditions. Economic conditions are probably the most visible factors affecting worker-work interrelationships, and include: the general level of technology in the society (Carlisle, 1973); the socioeconomic organization in the society (Blau et al., 1956); available physical resources —including supply and quality of natural and energy resources, capital, and support industries (Ibid.); human resources—including general educational level of the labor pool, composition of the labor pool, size of the labor pool, and the current state of the labor "market" (Ibid.); industrial composition (Ibid.); job classification and hiring systems; and general and local economic conditions—including consumer demand, interest levels, employment ratio, and value of currency in national and international trade (Blau et al., 1956; Carlisle, 1973).

Sociocultural trends. Sociocultural trends are those that affect the establishment of personal and group values, hierarchies of needs, norms of behavior, and attitudes and expectations about work. Changing social values and changing work attitudes (including the "work ethic") are factors given considerable significance by Katzell and Yankelovich (1975), Etzioni (1979), and Petty (1978). Blau et al. (1956) and others discussed the importance of trends of social mobility, which also affect trends in occupational mobility. Group-related ideas about "appropriate" occupations and careers are likewise based on sociocultural trends (Hollingshead, 1949; Krumboltz et al., 1976; Miller & Form, 1964).

Government regulations and legislation. Government-related factors are influential both on the society and the economy in general, and on work organizations in particular. The form of government is related to its responsiveness to sociocultural trends as well as to economic conditions. Government guidelines, legislation, and regulations affect almost every aspect of work organizations, from hiring practices to advertising practices, price guidelines, safety conditions, organizational size (i.e., anti-trust laws), and many other facets of work organizations, as well as unions (Carlisle, 1973).

Educational institutions and practices. The structure, values, and practices of educational institutions are obviously of great significance in worker-work interrelationships (O'Toole, 1972; Toffler, 1970; and others). Education imparts knowledge and abilities to individuals, as well as attitudes and expectancies, and one of the primary purposes of education is generally thought to be the preparation of persons for functioning in the economic sector of the society—that is, for working. The repertoire of "appropriate" skills, knowledge, and attitudes, as well as its quality and its transferability, are to a great extent within the domain of educational institutions. These directly affect the transferability and mobility (and, inevitably, the adaptability) of workers and, insofar as the quality of educational outcomes affects the quality and composition of the labor pool, affect work organizations as well.

Climate and geographic location. The climate and geographic location of an individual or of a work organization may affect worker-work interrelationships, in that climate and geographic location may determine the availability of resources and technology for various kinds of industries, as well as kinds of jobs available and the level of competition for them (Blau et al., 1956).

Summary: Factors in Adaptation

Adaptation involves interaction between an individual and his or her environment, and theories of adaptation organize factors involved in adaptation into person/environment categories. Biological theories of adaptation focus on the factors of populations or species in interaction with their environments, and view adaptation as an evolutionary process. Psychology and psychiatry focus on the mental health and/or intelligence of individuals as the important factors in adaptation, and generally downplay the roles of environment except as they affect early development; adaptation is viewed primarily as an intrapsychic process. Sociology and anthropology focus on factors of groups, institutions, and cultures as those most potent in adaptation, and view adaptation as group-process.

Because extant literature on factors in the work context generally do not address notions of adaptation directly (or address them in a very limited fashion), assembling and organizing the probable factors in occupational adaptation amounts to assembling a picture-puzzle from—at first glance—random pieces. Factors were culled from such diverse sources as industrial, occupational, and organizational psychology and sociology (pp. 16-38), and career counseling and educational research (pp. 38-45). Of particular relevance to adaptation in work is the literature on work-related competencies, including transferable skills and adaptive skills and abilities (pp. 45-54).

The picture of work-related factors that emerges follows the general person/environment model, and borrows some of its components (especially Person factors) from the general literature. A profile of the major dimensions (Person, Work Environment, and External Environment) and their component factor areas is shown in Figure 1 (p. 56). Major factor areas in the Person dimension include subjective person factors (e.g., needs, values, attitudes, etc.) and objective person factors (age, SES, transferable skills, adaptive competencies, etc.). Major factor areas in the Work Environment dimension include occupation and job content factors (e.g., occupational title, tasks, task variety, job autonomy, etc.), immediate work environment factors (e.g., work group size, work conditions, etc.), and organizational factors (e.g., pay and promotion policies, organizational size, goals, needs, etc.). Major factors in the External Environment dimension—the milieu in which both workers and work dimensions exist—include economic conditions, sociocultural trends, government regulations and legislation, educational institutions and practices, and climate and geographic location. Each of the major dimensions may affect the adaptive situation through human agents—the person him- or herself, significant others in other contexts of the person's life, coworkers, supervisors, managers, educators, and so forth.

In occupational adaptation, factors of the individual person interact continually with those of the work environment, and both of them interact with the general environment factors. Any factor or set of interacting factors may act as facilitator or inhibitor in the kinds of adaptive responses possible, or likely to be effective, in a given situation for a given person. By the same token, the factor(s) potent in one situation or for one person may be neutral—or cancelled out by other factors —in different circumstances.

Two of the more important person-factor clusters in occupational adaptation—i.e., a person's repertoire of transferable skills and adaptive competencies—are of particular interest in that they constitute the overall potential a person has from which he or she may draw in responding to adaptive situations in work. Transferable skills are mathematics, communications, interpersonal, reasoning, and manipulative skills that can be applied—directly or with some modification—in more than one job or context. The more fundamental a skill is, and the more proficient a person is in using it, the more transferable it will be across contexts (see pp. 59-60). Adaptive skills are used to deal with changes in worker-work interrelationships and, linked with adaptive knowledge, attitudes, and certain personal characteristics (see Figure 3, p. 61), result in adaptive behavior. Adaptive competencies (e.g., hunting a job, dealing with pressure on the job, etc.) are composed of clusters of adaptive behaviors that have been developed to a level of mastery sufficient to achieve reasonable reliability.

This section has examined the factors and interrelationships affecting adaptation. In particular, it has attempted to answer some of the "what" and "why" questions related to facilitating or inhibiting occupational adaptability. The next chapter will examine the "how" question—*how* do people deal with the need to adapt in work life? What kinds of behaviors do they exhibit? What individual and group strategies do they use? O'Toole (1972), in *Work in America,* claims that "improvement in the quality of life will occur mainly through making better use of . . . human resources. And by 'better use' I mean not *harder* work but *smarter* work" (p. 2). It is the contention of this paper that occupational adaptability—effective use of adaptive behaviors and styles in work—is intrinsic to "smarter work."

CHAPTER IV.

WHAT BEHAVIORS AND STYLES ARE USED IN ADAPTING?

As we have seen, most theories that examine person-environment interrelationships—or, in the "economic" context, worker-work interrelationships—deal with adaptation in the sense of what factors interact to affect tendencies or probabilities or patterns involved in achieving a "fit" between person and environment. Very few of the theories, however, examine the actual activities or sets of activities involved in establishing a fit or correcting a mis-fit: the "how do people adapt?" question. If adaptation involves a compromise between the needs and expectancies of workers and the work environment, what behaviors or strategies are used to try to achieve the compromise? Do adaptive behaviors and strategies show patterns or regularities that might be thought of as *styles*?

Literature on biological theories of adaptation maintains that the activities involved in *species* adaptation are those linked to reproduction and natural selection, yet "as complex organisms have evolved, behavior has become an exceedingly important factor in meeting adaptive tasks which contribute to species survival" (Hamburg et al., 1974, p. 403). White (1974) adds that "there is a sense in which all behavior can be considered an attempt at adaptation" (p. 49). Behavior, then, is an indispensible source from which to infer how people go about adapting.

Earlier in the literature review,* it was proposed that skills, knowledge, attitudes, and other personal characteristics interact and result in behaviors. Baruch (1963) has suggested that

> ... the total behavior of a person, including his [sic] vocational choice and vocational role enactment, reflects certain regularities of functioning. Behavior, and specifically vocational behavior, becomes predictable in terms of this underlying regularity and the description of this regularity is the description of the personality. (p. 94)

Individual behavior, however, "is not simply an expression of individuality, but a transaction between the subject and his [sic] environment" (Phillips, 1968, p. 212). Argyris (1964) adds, "human behavior is a function of the individual interacting with and perceiving (that is, being aware of) his [sic] world" (p. 152). Figure 4 presents a diagram of the major components that interact and result in adaptive behavior. *An individual's potential for adaptive behavior—his or her adaptability—is composed of the interacting elements in the "person" half of the person-environment interaction.* The environmental elements, then, function to influence what adaptive behaviors the person may actually use, depending on how the person perceives the environmental elements and on what behaviors compose the particular person's *potential adaptive repertoire.*

Adaptation, however, seldom involves the use of an isolated behavior. As White (1974) explains,

> ... adaptive behavior entails managing several things at once. ... An organism must (1) keep securing adequate information about the

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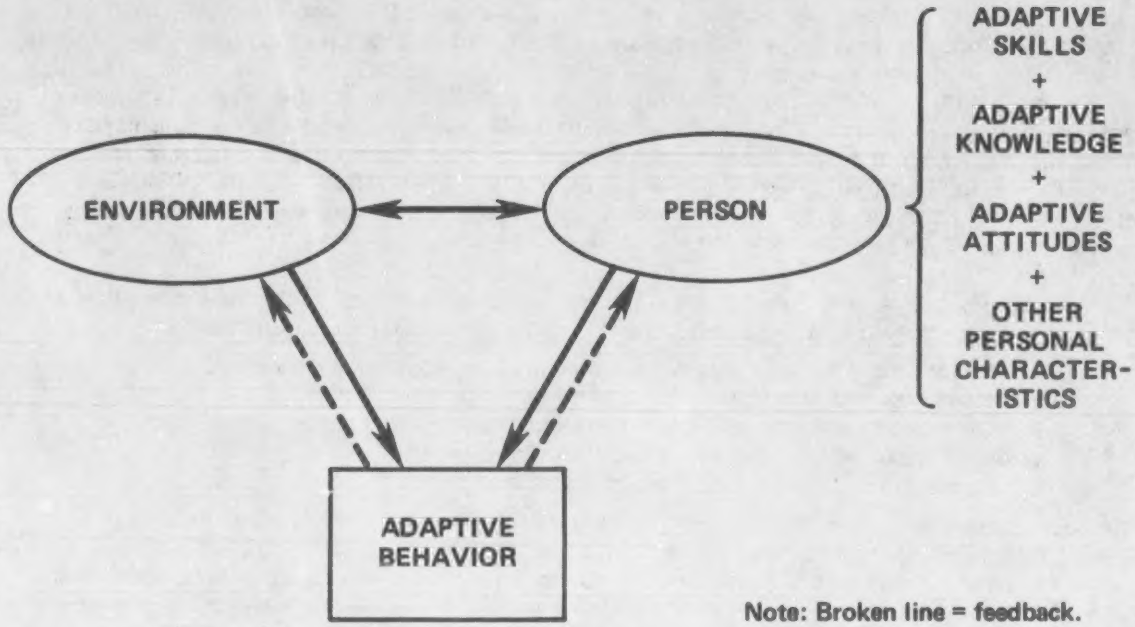
* "The Person Dimension," pp. 57-62.



Note: Broken line = feedback.

FIGURE 4. General components involved in adaptive behavior.

> environment, (2) maintain satisfactory internal conditions both for action and for processing information, and (c) maintain its autonomy or freedom of movement, freedom to use its repertoire in a flexible fashion. (p. 54)

To deal with the multiple demands of adapting, people tend to use adaptive strategies, which may be thought of as learned patterns of sequential or simultaneous adaptive behaviors. Much of the literature on adaptive behaviors has focused on categorizing strategies along dimensions of *style,* which are patterns or general tendencies of an individual's behavior that express themselves along certain commonalities. (These will be discussed in more detail later in this section.)

There are problems with using behaviors or behavioral strategies of individuals as the determinants of adaptation. While observation of behavior is probably the most visible manifestation of how people adapt, Stern (1970) warns that "the interpretations of participants [i.e., the people actually doing the adapting] may be quite different from those that might occur to a more detached observer" (p. 7). On the other hand, there are problems with more subjective ways of examining adaptive activities (such as self-reports through questionnaires or interviews), too. As Mechanic (1974) explains,

> . . . we must go beyond people's subjective reports of how they feel and how they have responded to particular stressful circumstances. Such reports are particularly dubious when they describe events retrospectively, because we know that part of the process of adaptation involves the subtle restructuring of the individual's attitudinal set toward events that have taken place. . . . Successful adaptation requires changes in attitudes and perspectives that are sufficiently subtle so that the person hardly recognizes the changes himself [sic].* (p. 46)

Regardless of the ambiguities of discerning or measuring adaptation, however, adaptation appears to manifest itself primarily through behavior, and even the intrapsychic adaptations (such as repressing emotions, lowering one's aspirations) mentioned by Mechanic and by various psychologists (Erikson, 1950; Freud, 1937; Lazarus, 1979) probably affect subsequent behavior and can thus be inferred.

Human beings generally adapt as individuals, but "the role of behavior in adaptation is not only a function of individuals, but of groups as well" (Hamburg et al., 1974, p. 404). Sociological and anthropological perspectives on adaptation "make clear how interdependent men [sic] are even in the most simple of societies and how dependent they are on group solutions in dealing with environmental problems" (Mechanic, 1974, p. 34). Group solutions to adaptive pressure occur via informal groups, formal groups (e.g., in work, unions, and professional societies or associations), and societal institutions. Work organizations themselves experience adaptive pressure, and use various strategies in striving for better congruence between workers and the organization as a whole.

The review of the literature on adaptive behaviors and adaptive styles, which follows, is arranged in four sections:

(a) Individual adaptive behaviors and styles in a general context;
(b) Individual adaptive behaviors and styles in work environments;
(c) Group-centered adaptive behaviors and styles involving workers; and
(d) Adaptive strategies and styles of work organizations.

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*It is not certain whether Mechanic's claim that restructuring of a person's attitudinal set is inevitable is necessarily always true. However, it is probably a *frequent* outcome of adaptation. Whether it is a side-effect of the adaptation or intrinsic to it (as in adaptation by repression) may depend on the particular circumstances and on the adaptive habits of the individual involved.

The last category, organizational adaptations, will be considered only briefly, as the focus of this paper is primarily upon individual and informal-group adaptation. Concluding the literature review will be a summation and synthesis of what is known about adaptive behaviors and styles, which are integral to the working model of occupational adaptation (presented in the next chapter).

Individual Adaptive Behaviors and Styles in General Contexts

The importance of adaptation in the survival and growth of species and individuals was discussed in an earlier section* and the concept was examined from the biological, clinical/psychological, and socio/anthropological perspectives. While each of these perspectives has somewhat different notions of what constitutes humanness, all of them appear to agree that behavior is a major means, if not *the* means, in achieving person-environment congruence. They also seem to agree that regardless of what aspect of human existence is seen as most potent in adaptation (i.e., in biological sciences, the species; in clinical and psychological sciences, the individual; in sociology or anthropology, the group or culture), the behavior of *individuals* is an important unit of analysis. The following review of adaptive behaviors and strategies examines individuals' use of them in a general context, and looks at various attempts to systematize what are perceived as behavioral patterns into adaptive styles. It should be noted that discussion of each disciplinary perspective inevitably involves concepts or behaviors that overlap with other perspectives—an implicit mandate for an eclectic approach to understanding human adaptation in general as well as specific contexts.

Biological/Evolutionary Perspectives

Many human adaptive behaviors seem to have their origins in the evolution of the animal kingdom and of the upright pre-human species. The adaptive behaviors will be examined from literature on both sources, first those discussing the behaviors available to most animals as well as humans, and then those focusing on the behaviors that are the evolutionary birthright of *homo sapiens.*

Hamburg et al. (1974) examined biology-based adaptive behaviors that characterize both humans and animals, and noted that there are three general areas of adaptive behaviors that seem—in many species—to be genetic in origin. These include: (a) instinctual infant behavior (such as suckling in mammals) and parenting activities (e.g., nesting in birds, protective behavior of young in most mammalian species); (b) aggressive behavior (as in defense of the individual's life, or in order to acquire or maintain access to a valued resource such as food, a mate, territory, etc.); and (c) exploratory behavior (such as observational learning in young lions trying to hunt).

Instinctual behaviors have been observed to occur in at least some rudimentary fashion even in animals deliberately raised in isolation. Besides infant behavior and parenting behavior, instinctual behaviors are thought to include courting behaviors, nesting and burrowing behaviors, some hunting behaviors, territoriality, hibernation, migration, and the regulation of internal biological clocks specific to the species. Certain building and manipulative behaviors, such as web-construction in spiders, hive construction and repair in social insects, and some tool construction and use by primates, also seem to be instinctual. The biological functions of sleeping, and even dreaming, are thought by many researchers to be adaptive functions (Foulkes, 1966; Kleitman & Dement, 1957).

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* "What Is Adaptation?", p. 5.

Aggression is one of a number of adaptive behaviors commonly thought of in terms of social or intrapsychic behaviors, but appears to originate at least partly in genetically conditioned functions. An increased public awareness and interest in human aggressive behavior in recent years has, because of some striking similarities (particularly of brain structure) between primates and humans, led to an upsurge of research on the aggressive behavior of the great apes. Goodall's observations of chimpanzee behavior (Goodall, 1979) have examined their nurturing, tool-using, learning, and aggressive behaviors, and among her many findings, Goodall noted that chimpanzees have the capacity to defer or redirect their aggressive behaviors, usually "downward in the dominance hierarchy." Similar behavior has been noted in wolves and lions. It may be inferred from this kind of evidence that at least one biology-linked area of adaptive behaviors involves modifying or extinguishing instinctual behaviors such as aggression.

Exploratory behavior appears to carry its own evolutionary motivations in that, much as the behavior of eating may stimulate a sensation of pleasure, so may experimentation and observation stimulate what White (1959) calls "feelings of efficacy." When this positive sensation occurs as a result of exploratory behavior, "the behavior leads the organism to find out how the environment can be changed and what consequences flow from these changes" (p. 329).

Hamburg et al. (1974), in examining the exploratory behavior of observational learning, note:

> Newer field studies suggest the adaptive significance of observational learning in a social context. . . . Such social learning seems to be crucial in the development of adaptive behavior in nature, because young nonhuman primates have the opportunity for consistent, close-range observation of behavior utilized by adults in meeting the adaptive problems of their habitat. (p. 406)

The social context of much observational learning requires some level of cooperation between two separate organisms, and the same may be said of more instinctual behaviors such as courting, mating, and the nurturing behaviors of parents. Some species, because they live in social groups, depend on observational learning—and have been known to treat deviance with violence or ostracization. The survival of infants and the transfer of vital cooperative survival behaviors may depend on the adaptation of the whole group (Ibid., p. 404).

Goodall (1979) and other researchers have noted exploratory behaviors in animals that might be considered innovative and/or deviant for that species. Such behaviors (which include cases of warfare and cannibalism among chimpanzees) may become transmitted via observational learning to other members of the species. As in the case of genetic recombination or mutation, the transmission of such behavioral innovations may ultimately prove adaptive (that is, conducive to species or group survival), neutral (have no noticeable effect), or maladaptive (that is, destructive to the species or group, over time).

Another examination of biologically-based areas of adaptive behaviors was made by Scott (1966), who proposed that "from the perspective of the human organism, adaptive strategies may be divided into three classes, here called 'accommodation,' 'locomotion,' and 'construction' " (p. 393).

Accommodation, defined as "developing behavior patterns and traits that satisfy environmental requirements" (Ibid.), seems to be related both to the socially-oriented, self-modifying behaviors of Goodall's aggression-deferring chimpanzees, and to group behavior-extinguishing activities related to the suppression of "deviant"—and potentially dangerous—exploratory behavior. Indeed, Scott notes that "accommodation has traditionally been conceived in terms of conformity" (p. 394). However, Scott adds an important facet to this area of adaptive behavior by noting that "long-term survival of the organism, or maintenance of a particular environmental structure, may be best furthered by inaction—by refusal to face and solve the problem as presented" (p. 396). This may be interpreted as a form of accommodation in that the "refusal to face" the problem—let alone seek a way to solve it—implies some kind of intrapsychic mechanism for damping sensory or emotional perceptions of the stimulus, or instinctual responses such as aggression or flight.

Scott defines *locomotion* as "movement in search of an environment congenial to the organism's present behavior patterns and traits" (1966, p. 393). Scott's notion of locomotion is fairly simple: for adaptation, "it is only necessary that the organism be capable of movement and of recognizing a congenial habitat when it is reached" (Ibid., p. 396). White (1974) also examined the strategy of locomotion, adding a number of useful components: "When locomotion is employed, it can consist of approach, avoidance while still observing the object of interest, of flight, and a final option is the complete immobility of hiding" (p. 54). It becomes clear that while an organism's precise locomotive behavior may be stimulated either by instinct or observational learning (as in the case of wild animals whose instinctual urge to flee from humans may be overcome by deliberate operant conditioning or by cumulative familiarity), its array of locomotive options are biologically preordained (e.g., the locomotive options of a pigeon versus those of a clam).

Construction was defined by Scott as "altering the environment so that its requirements become more congenial to the organism's resources. The most feasible strategy in any circumstance depends on the characteristics of the particular organism and of the environment" (1966, p. 393). Constructive behaviors appear to be related to exploratory behaviors, in that "the strategy of constructive adaptation consists in modifying the environment so as to meet the organism's requirements, or, alternatively expressed, in modifying the environment so that its requirements match the organism's resources" (Ibid., p. 397). The line between accommodation and constructive adaptation is not always clear, however. Instinctual—or observationally learned and group- or species-approved—animal behaviors (e.g., beavers' dam-building behavior) certainly alter the environment, but they are also conforming behaviors. In addition, Scott notes that

> Animal societies—ants, beavers, or men [sic] —sometimes solve problems by altering the environment so as to change the very nature of the problem it presents. In experimental studies of individual human problem solving, optimal accommodation often consists of reorganizing the presented stimulus elements. (Ibid., p. 394).

Not all biologically-based adaptive behaviors or strategies available to human beings are those shared with the animal kingdom at large. A number of adaptations are the result of human evolution, and the study of them inevitably involves questions about the uniqueness of the human animal: What is it that separates us from the other animals; why are we the (current) dominant species; in other words, what does it mean to be a human?

Recent research in physical anthropology (Leakey & Lewin, 1978) has produced fossil evidence that evolutionary specialization in human brains (especially critical developments in the parietal and temporal lobes) is an information-handling adaptation unique to *homo sapiens* and our species' direct (nonprimate) ancestors: "For instance, a human's memory storage and ability to integrate a complex kaleidoscope of sensory information are much more developed than an ape's; hence the difference in the respective lobes" (p. 50). Another area of research, that of brain lateralization, proposes that

> . . . each half or "hemisphere" of the brain is responsible for certain mental abilities, the left side generally handling the logical and verbal functions, the right side taking most responsibility for intuitive, emotional, and spatial abilities. (Rice, 1979, p. 38)

Although there is no apparent fossil evidence that brain lateralization is a particularly human evolutionary adaptation, the development appears to be linked to cognition—the ability to think in abstract as well as concrete and affective terms. More complex brain development, in Leakey and Lewin's opinions, is directly related to a more sophisticated perception of "reality"—the environment outside of the individual with which he or she must interact.

The notion of tool-using and tool-making as exclusively human adaptive behaviors has been debunked by observations of chimpanzee's termite-eating habits, which make use of both behaviors. Experiments in the use of American Sign Language by chimpanzees (Premack, 1976; Rumbaugh, 1977) have called the exclusivity of language and symbol manipulation by humans into question. Even what Leakey and Lewin (1978) call "an appreciation of time"—a vital element in reality concepts and thought to be an exclusively human adaptation—may be within the realm of primate capabilities: "We share with the great apes much of the same kinds of sensory tools for creating a mental picture of the world" (p. 54).

One remaining human adaptive behavior, the use of *spoken* language, is probably the most potent of our species' adaptations, and seems to be the single, (relatively) unchallenged behavior unique to human beings. Its adaptive advantages are endless. It permits the conveyance of complex information and allows the sharing of human consciousness and perceptions of reality, through which the pooling of experience in exploratory behavior and what Leakey and Lewin call "enhanced social interaction" become possible. Leakey and Lewin further propose that with the establishment of cooperative social groups among pre-humans, accomplished via the use of language, the human brain itself was stimulated to evolve and adapt even more: "The pressures of social life were an important engine in the evolution of the human brain" (1978, p. 61). These adaptations took the form of specialized functions of mind and/or brain that allow individual human beings to perform sophisticated intrapsychic accommodating activities:

> A crucial aspect of operating the mixed economy of gathering and hunting [that resulted from the formation of cooperative social groups via spoken language], apart from the mechanics of knowing where and when to find food, was the enhanced social interaction, particularly the psychological and emotional complexities of reciprocal altruism. Being part of a group that cooperates to achieve common goals, demands restraint, persuasion, tact, submission, perception, and a good sense of humor. And beyond that is the desire—conscious and subconscious—to ensure that the system of reciprocal altruism operates as it should, with no one gaining unfair advantages. (Ibid.)

These developments point to two fairly specific arenas of subsequent adaptive pressure in human existence: (a) the development of more sophisticated psychological adaptive techniques for individuals to go with the more complex human brain and human environment; and (b) the development of culturally-determined, socially adaptive techniques for individuals within groups as well as for groups interacting with other groups. The next section will review pertinent literature on individual adaptive behaviors from the psychological perspective, to be followed by a review from the sociological perspective.

Psychological Perspectives

The complexity of contemporary human existence places considerable strain on individuals to behave adaptively with regard to their own needs and desires, those of the significant others in the groups in which they find themselves, the demands of their general culture and environment, and the constant changes—trivial or dramatic, immediate or gradual, developmental or circumstantial, temporary or permanent—that occur in and between each of those domains. Psychology, the study of human behavior, has devoted considerable attention to the behaviors and behavioral strategies by which individuals seek to establish, maintain, or restore equilibrium—i.e., to adapt—in our convoluted, frequently contradictory existence. A major contention of psychological theories of adaptation is that adaptive behaviors tend to have patterns, and critical issues arise over the individual's selection of the adaptive patterns.

> These patterns may be predominantly regressive or defensive, functioning primarily for the protection of the self from disintegration, or may represent efforts to master the environment, restructure the task ahead, and solve the problems of dealing with a novel situation. (Adams & Lindemann, 1974, p. 128).

Most psychological theories of adaptation consider the acquisition of adequate information about the environment to be a central requirement for adaptive behavior. Aside from its role in securing basic psychological needs, adequate information is necessary to an individual's healthy mental picture of reality. In addition, "Depending on circumstances . . . adaptation may take the form either of seeking more information or of trying to cut down on the existing input" (White, 1974, p. 56). A related adaptive behavior is the cognitive (and affective) appraisal and reappraisal of that information, followed by some appropriate action to implement the new appraisal (Hamburg et al., 1974; Lazarus et al., 1974).

Along this line of reasoning, French et al. (1974) have proposed four general strategies for individual adaptation:

(a) *Changing the Objective Environment;*
(b) *Changing the Objective Self* (e.g., acquiring new skills);
(c) *Changing the Subjective Environment* (that is, one's perception of "reality"); and
(d) *Changing the Subjective Self* (that is, one's perceptions of oneself).

Furthermore, French and his colleagues qualify each of the above four strategies according to whether the change is either an "increase" or a "decrease." They add that ". . . any one of these may vary in the motivation that induces the change, that is, in the extent to which it stems from an effort to improve P-E [person-environment] fit or an attempt to improve accuracy of perception" (1974, p. 331).

Adapting the subjective environment and the subjective self. Most psychological studies of adaptation have examined behaviors in situations of stress or crisis. Mechanic comments that "because the study of stress has been to some extent limited by the fashionable methodologies of the past few decades, the picture of adaptation that emerges from the literature is one that depicts man [sic] as reactive and individualistic and his mode of coping as largely intrapsychic" (1974, p. 39). In other words, many earlier psychological studies of adaptive behavior have tended to emphasize French et al.'s latter two adaptive strategies, Changing the Subjective Environment or Changing the Subjective Self. The latter two strategies are intimately related to maintenance of a person's self-esteem, without which the individual's capacity to maintain "energy for action" is usually impaired (Argyris, 1964, 1973; Mechanic, 1974). Alienation—"a state of estrangement in which the individual may perceive himself as powerless to control his or her own destiny" (Campbell & Wynn, 1975, p. 4)—and apathy are two frequent outcomes of failure to maintain self-esteem. As White put it, "no adaptive strategy that is careless of the level of self-esteem is likely to be any good" (1974, p. 61).

Freud's psychoanalytic theory proposed the concept of *defense* as a primary adaptive strategy that includes such intrapsychic behaviors as repression, projection, rationalization, denial, avoidance, etc. Contemporary ego psychologists have redefined defense somewhat, restricting it "to those instances of adaptation in which present danger and anxiety were of central importance" (Ibid.,

p. 48). Nevertheless, the behaviors clustered under Anna Freud's explication of defense mechanisms (1937) pertain to ways that people handle feelings and/or information about the outside world as well as about themselves.

Many adaptive behaviors in the "defense" category are concerned with how information about "reality" is perceived, stored, evaluated, and reevaluated in order to protect the self. A very basic, protective information-handling adaptation that all healthy humans seem to have is automated attention, which Furst (1979) proposed has a physiological locus in the reticular activating system of the brain; this allows a certain filtering out of incoming background information that sometimes manifests itself in what appears to be a person's inattention, but is actually a "decrease in the rate of perceptual processing . . . that . . . frees the machinery of consciousness for other tasks" (p. 112). After this first automatic filtering of incoming information has occurred, though, "what really counts is the meaning of the [remaining] information in terms of potential benefits and harms" (White, 1974, p. 56). In this sense, Matlin and Stang (1978) have suggested that "cognitive control processes, located in long-term memory, seem to favor the processing of pleasant information" (p. 59) over unpleasant information. This altering of perceptions of reality appears to be related to many facets of intrapsychic defense, including self-deception, repression, forgetting, and overrating of one's own qualities and/or importance (Matlin & Stang, 1978; Mechanic, 1974; Myers & Ridl, 1979).

When incoming information severely affects an individual's self-esteem and/or perceptions of reality, the mental "channels" may become overloaded, and different adaptive behaviors may be used. For instance, "Sometimes adaptation to a severely frustrating reality is possible only if full recognition of the bitter truth is . . . postponed [i.e., avoidance]" (Hamburg et al., 1974, p. 425). Projection or displacement are behaviors by which an individual may deal with perceived danger to his or her self-esteem by attributing the resultant feelings to others or by projecting them (as in feelings of guilt) upon others. Defensiveness, often expressed in aggressive verbal behavior or in uncommunicativeness, is an aspect of displacement.

A related set of behaviors, denial and illusion, are important defense reactions to sharp alterations in self-esteem or perceptions of reality. Denial is, in effect, refusal to face the facts. Illusion, the construction or maintenance of false beliefs about reality, is related both to denial and self-deception. These are not necessarily pathological behaviors. Denial and illusion "have their usefulness in coping with stress and may, indeed, be the healthiest strategies in certain situations" (Lazarus, 1979, p. 44). For instance, hope, which is sometimes illusionary, is "not pathological; hope is not the same as denial" (Ibid., p. 48). On the other hand, Hamburg et al. (1974) caution that "though self-esteem may have to be maintained in the short run by defensive avoidance and self-deception, long-term avoidance of real problems tends to be maladaptive, at least if the stakes are high" (p. 426).

Not all intrapsychic adaptive behaviors are avoidance behaviors. Some people "approach rather than avoid anxiety and tend to use the defense mechanisms of intellectualization and obsession" (Moos, 1974, p. 372). Intellectualization (or rationalization) involves attributing one's actions to logical and ethical motives, without adequate analysis of the true motives, which may be too damaging to self-esteem; this involves not repression or denial of reality, but rather a cognitive restructuring or distortion of the facts. Obsession, related to compulsivity, involves gnawing over an unresolved problem (real or perceived) to an extent that it occupies an excessive amount of time and energy, even when nothing can be done to resolve the problem (the compulsive behavior resolves the *anxiety*, however, at least temporarily).

Alternative approach behaviors involve "accepting the conflict" (George, 1974, p. 190) between subjective perceptions and self-esteem, and the objective facts. This may involve subsequent intrapsychic restructuring in an activating or deactivating direction. A deactivating behavior in this context might involve changing one's attitudes or lowering one's aspirations. An activating behavior is psychological preparation, such as planning and mental rehearsal, although this is only possible "where important problems can be foreseen, or where early warning signals exist" (Hamburg et al., 1974, p. 426). As Harris states,

> First, you have to be aware of your anxiety to avoid being its captive. This raised consciousness gives you a chance to decide when you are merely working out anxiety and when you are working on the objective problem. (1975, p. 4)

Adapting the objective self. Another of French et al.'s (1974) categories of adaptive strategies was Changing the Objective Self. Certain kinds of characteristics of the objective self are relatively fixed, however, such as sex or race, and some change automatically and cannot be affected, such as age. Other objective aspects of individuals are somewhat amenable to change, but border between being traits and gross life adaptations, such as basic personality, marriage, childrearing commitments, working, lifestyle, and the like; they do not appear to be discrete behaviors or adaptive behavioral strategies as considered here, although they obviously involve the constant use of adaptive behaviors.

Some objective person factors are amenable to change, including knowledge, skills, and—within more narrow limits—physiology. The individual adaptive strategies for changing these factors are *learning* or (regarding physiology) *training.* Piaget (1952), whose theory of cognitive development has been influential in many pedagogies of teaching, thought of adaptation primarily in terms of a human tendency to adjust oneself *to* the environment. Piaget proposed two kinds of adaptive strategies: (a) assimilation, which is the tendency to incorporate novel experiences into existing schemes or to form new shcemes; and (b) accommodation, which is the tendency to revise schemes to include new experiences.

It is not within the scope of this paper to discuss learning theory in depth, but the adaptive implications of learning behaviors—including attention to the use of transfer skills—should be obvious. The acquisition and effective processing of information, as well as the modification of extant knowledge and behavior or the extinction of obsolete knowledge or behavior, are ideally within the domain of an individual's learning behaviors. As the adaptation of the objective self is a major strategy for interacting with the objective environment as well as maintaining self-esteem, learning cannot be overemphasized as a vital adaptive behavioral strategy.

Adapting the objective environment. French et al.'s (1974) notion of adapting the objective environment has not been given very much attention by psychologists, though Mechanic noted that "some investigators have broadened their scope of study to include . . . the direct manipulation of the environment" (1974, p. 32). Lazarus (1979) discussed two main kinds of adaptive behaviors for dealing with stress, one of which is emotion-focused (and akin to many of the intrapsychic adaptive behaviors already discussed), and the other of which he called problem-solving coping: ". . . efforts to change the troublesome situation for the better" (p. 57).

Certain kinds of active anticipatory behaviors seem to be involved in adapting the objective environment, including taking on tasks one feels he or she can handle, establishing multiple buffers against defeat, taking the initiative where possible, distributing one's commitments, keeping options open, and collecting and organizing resources ahead of time (Hamburg et al., 1974; Mechanic, 1974; Phillips, 1968). The actual performing of tasks is another way of affecting and adapting the environment to one's needs and desires. It is here that problem solving—involving manipulation of the environment—is very useful. Related behaviors include the restructuring of tasks, the prioritizing and selection of tasks among alternatives, self-pacing, and solving novel situational problems (Adams & Lindemann, 1974). Goldschmidt (1974) proposed three methods for altering problem-solving behaviors to meet novel situations: (a) adapting some earlier pattern, (b) sloughing off old patterns, and (c) sheer invention (p. 23). Most of these methods overlap with learning behaviors. Finally, an individual may adapt the environment to him- or herself by selecting from alternative environments (locomotion) or at least selecting the site for his or her adaptive activities (Mechanic, 1974).

Defense, mastery, coping—and adaptation. Most psychological literature conceives of adaptive behaviors in terms of adaptation, defense, mastery, and coping, but until recently (Grinker, 1974; White, 1974), little attempt was made to differentiate and define the terms. White (1974) examined each of the concepts and concluded that *adaptation* is the central concept, while defense, mastery, and coping are strategies (systems of linked behaviors) of adaptation. *Defense,* for instance, is generally used in the psychoanalytic sense and is akin to those activities in French et al.'s (1974) categories of Changing the Subjective Environment or Changing the Subjective Self. Defense, then, is concerned with danger and safety, referring centrally to protection against anxiety (Hamburg et al., 1974, p. 425). On the other hand, White found that *mastery,* frequently associated by psychologists with adaptive defeat or victory rather than actual behavior, is more akin to French et al.'s categories of Changing the Objective Environment or Changing the Objective Self. "If mastery is to be used in any limited technical sense it should probably be confined to problems having a certain cognitive or manipulative complexity, but which at the same time are not heavily freighted with anxiety" (White, 1974, p. 48).

Coping, in White's perspective, does not seem to be aligned with any of French et al.'s categories, but rather applies to any adaptive behaviors applied in difficult and unusual conditions. White's notion of coping is derived in part from the kinds of situations psychologists have chosen for studying coping behaviors, most of which involve major life transitions (such as going to school for the first time, or entering puberty or menopause) or major life crises (such as crippling injury or illness, the death of loved ones, or financial disasters). "It is clear that we tend to speak of coping when we have in mind a fairly drastic change or problem that defies familiar ways of behaving, requires the production of new behavior, and very likely gives rise to uncomfortable effects like anxiety, despair, guilt, shame, or grief, the relief of which forms part of the needed adaptation" (White, ibid.). Coping, therefore, is concerned with the depth and extent of adaptive response, and is not concerned with the particular adaptive behavior(s) to be used. Coping also generally involves both intrapsychic and active behaviors: "In most crisis situations, the adaptive process is a complex and changing mixture of . . . regressive and progressive components, and it is to this dynamic process of search for individual styles and strategies . . . that the term coping has been applied" (Adams & Lindemann, 1974, p. 128).

No one of these definitions seems more useful (in the sense of its ability to generate empirically testable hypotheses) than the others for studying adaptation. Defense and mastery each seem to apply to certain adaptive situations (and may, in fact, operate simultaneously in some), but coping, because of its implications of crisis, is too restrictive. The term adaptation—encompassing all these notions—seems to be the most useful for purposes of this paper.

Psychological literature on adaptation is mostly concerned with intrapsychic adaptive behavior, and where "changing the environment" is considered, the adaptive behaviors are generally thought of in hazy terms of "doing something" to alter "whatever is out there." Almost invariably, what is "out there" involves interaction with other people, in the sense that most human beings live in a human environment requiring almost continual transactions with other people. Individuals are required to respond to others, and others are required to respond to the individual in order for all to survive and grow in a societal context. It has been the domain of sociology, social psychology, and anthropology to investigate the crucial area of interpersonal and group adaptive behaviors.

Sociological Perspectives

Since the evolution of social groups as a form of species adaptation in animals and their utility to *homo sapiens* in the form of society and culture, social interaction has been a largely inescapable part of the objective and subjective environment of human individuals. Social psychologists studying stress have noted that adaptation must be thought of in terms of the relationship between external physical and social demands on the person and his or her resources to deal with them (McGrath, 1970). From a sociological perspective, Phillips (1968) adds that

> human behavior is seen as not simply a consequence of the individual's psychological attributes. Rather, his [sic] behavior in interaction with others is as truly the consequence of forces external to him as it is the result of his own psychological characteristics. The wishes, expectations, and actions of other people will play as great a determining role in a person's behavior as will his own wishes, expectations, and social skills. (p. 58)

The importance of an individual's interpersonal behavior to his or her own adaptive success is fairly clear. In one sense, "satisfaction of social-emotional needs [including self-esteem] is dependent on the expression of gratifying emotional responses by others with whom we value such relationships" (Ibid., p. 196). In another realm, Mechanic (1974) notes that, at least in most cases, "Reality . . . is a social construction, and to the extent that perspectives are shared and socially reinforced they may facilitate adaptation irrespective of their objective truth" (p. 38). Finally, many adaptive behaviors available to individuals involve cooperation with other people not only in terms of small group actions but in terms of major social institutions:

> Men [sic] learn through the experience of others, and solutions to environmental demands and challenges are taught from one generation to another. The ability of men and societies to adapt to the conditions of their lives depends in large part on the adequacy of such institutionalized solutions. (Ibid., p. 34)

Adaptation regarding social values is seen as taking one of two directions: conformity or nonconformity. "To the extent that a person's reference groups are themselves integrated into the general social order, his [sic] social-emotional security is dependent on his conformity to social expectations" (Phillips, 1968, p. 196). In another sense, though, conformity need not be mindless or rigid; within group-defined parameters there is room for "imposing one's own direction on the course of events" (Ibid., p. 2).

Merton (1957) proposed five discernible types of personal adaptive behaviors that individuals (and groups) may use in relation to social values: (a) conformity, (b) innovation, (c) ritualism, (d) retreatism, and (e) rebellion. Conformity, in Merton's view (see also Salamone & Gould, 1974), consists of acceptance of cultural or group goals and the institutionalized or traditional means of achieving them. Innovation, the general acceptance of established goals but the rejection of—or inaccessibility of—the institutionalized means, involves using behaviors that are novel and that may initially be considered morally and/or legally unacceptable (for instance, cohabitation) but that usually share the same or similar cultural goals (e.g., establishment of a family unit). In ritualism, a person accepts the institutional means but loses sight of the cultural goals, in that following the rules becomes an end in itself. In retreatism, an individual rejects both cultural goals and institutional means, effectively dropping out of society; in some cases this strategy might be considered innovative (in its original sense) in that retreatism can be experimental (for example, establishing communes). Rebellion, too, can be either constructive or antagonistic in a group or culture, and it may or may not involve acceptance and use of cultural goals and/or institutionalized means; in that its nature is always revolutionary, however, it is always an attempt of a person (or group) to act on the social environment in order to adapt it to personal (or group) needs and desires.

Taking refuge in group process, regardless of an individual's role in the group, may be a useful adaptive behavior for anyone, in that "by groupthink, several people can share wishful thoughts and comfort each other in illusion" (Harris, 1975, p. 4)—or at least in a shared perception of reality. It is important to note, though, that behaviors related to interpersonal competence and style affect the roles—and subsequent interpersonal behaviors—that people take. Kelly (1966), in an experimental study on exploratory (innovative) behavior and adaptation in various kinds of environments, found that in environments characterized by frequent change, persons high in innovative behavior are reputed to be leaders, while those whose innovative behavior is low are followers. In relatively stable environments, though, those with high rates of innovative behavior are labeled as deviants.

Phillips (1968) suggests that what is generally considered maladaptive behavior tends to take three forms: (a) Turning against the Self, (b) Turning against Others, and (c) Avoidance of Others. For instance, considering or attempting suicide, self-deprecation, or depression-related behaviors are examples of Turning against the Self; assault, threatening assault, temper outbursts, or antagonizing others are examples of Turning against Others; being suspicious of others, being unable or unwilling to make sense of things, hallucinating, or withdrawing physically and/or emotionally from the social context are examples of Avoidance of Others. These behaviors are considered maladaptive in that they tend to inhibit or preclude solutions to whatever discrepancies may exist between the social environment and the person exhibiting the maladaptive behaviors.

Nonconforming behaviors, however, may not be the only area of counterproductive behavioral styles. Passive conformity to social pressures may ultimately prove maladaptive for individuals whose self-esteem is primarily field-dependent (such as ritualists in Merton's notions) and whose personal needs are beyond the usual scope of institutionalized adaptive means to meet them. An example are some traditional homemakers who unexpectedly find themselves the sole source of support for themselves and their dependents, but who have not developed what are traditionally perceived as "marketable" work skills. Institutional adaptive means tend to lag behind individual adaptive needs in environments undergoing rapid social and/or technological change. The need for alternative adaptive strategies, such as "escape and search behaviors, or distinctly modifying behaviors, have been rather neglected" in institutions and in social research, and "this has consequences for the way in which 'flexibility' has been conceived as contributing to adaptation" (Scott, 1966, p. 395).

Several caveats on the roles of social behavior in general adaptation should be noted. While many environment-related problems facing people may be more amenable to group solutions than to individual efforts, not all adaptive problems, especially those related to coping with anxiety, are necessarily responsive to group solutions for every individual. Also, as Mechanic (1974) has pointed out,

> . . . individuals who may be adaptive and effective persons from a psychological perspective may be unfitted because of their values and individual orientations for the kinds of group cooperation that are necessary in developing solutions to particular kinds of community problems. Thus many effective copers, because of their resistance or inability to submerge themselves into cooperative organized relationships with others, may become impotent in influencing their environment. (pp. 36-37)

Summary of Perspectives

Two properties of individual human adaptive behaviors become apparent after reviewing adaptation from the perspectives of the various behavioral sciences. The first is the existence of *behavioral styles,* which, excluding the adaptive behaviors common to human beings as members of the species (such as autonomic reflexes, automated attention, or, in most people, spoken language), appear to cluster into three general approaches, here called the Reactive, Active, and Mobile adaptive styles. The second behavioral property is adaptive Quality, which involves how adaptive behaviors vary in their efficacy and consequences.

The *Reactive* style (illustrated in Figure 5) relates to those *behaviors by which an individual adapts him- or herself to the environment* in efforts to establish, maintain, modify, or reestablish a state of equilibrium or congruency with the environment. Scott's (1966) notion of Accommodation fits in this category, as do the nonaggressive defense behaviors studied by psychoanalysts and psychologists (Adams & Lindemann, 1974; Freud, 1937; and many others). Three of French et al.'s (1974) four adaptive categories also seem to belong in this style: Changing the Subjective Self (generally in order to maintain self-esteem), Changing the Subjective Environment (generally in order to maintain one's perceptions of "reality"), and Changing the Objective Self (generally in order to improve one's personal ability to interact with the environment or one's subjective self). Sociologists such as Merton (1957) and Phillips (1968) also proposed behaviors by which individuals act on themselves in attempts to adapt to the social environment, such as conforming behaviors and ritualism.

The second style (see Figure 5) noted in the various disciplines' theories of adaptation is the *Active* style, or activities performed by an individual in *adapting the environment to his or her own needs and desires.* Scott (1966) called these behaviors Construction, and related behaviors were mentioned in the psychological literature (Adams & Lindemann, 1974; Goldschmidt, 1974; Hamburg et al., 1974; Lazarus, 1979; Mechanic, 1974). The Active style is akin to French et al.'s (1974) category, Changing the Objective Environment. Sociological literature (Harris, 1975; Phillips, 1968; and others) has pointed out that many interpersonal behaviors of individuals also act to change the social environment in order to adapt it to the needs or desires of the individuals within the groups or the society. Two areas of such social behaviors include Merton's (1957) Innovation and Rebellion.

The third adaptive style, *Mobile,* involves adaptation by *changing the scene* (i.e., site) of the adaptive "struggle" (illustrated in Figure 5). In a sense, it is related to the Active style, but generally involves some sort of actual physical movement from one location to another. Scott's (1966) Locomotion concept is an example (i.e., approach, flight, hiding). Mobile behaviors are generally not considered in psychological research, probably because the intrapsychic processes upon which psychology focuses consider "changing the scene" in the sense of altering the individual's *perceptions* of the environment. Mechanic (1974) does, however, mention "selecting an alternative environment" as a behavioral option that is obviously related to mobile behavior. From the sociological perspective, Retreatism (Merton, 1957) is probably the prime example of "changing the scene" in the interpersonal or societal context.

As already mentioned, adaptive behaviors vary not only in the styles they assume but in their efficacy and consequences as well. This behavioral property, here called adaptive *Quality,* is probably not constant for any one behavior, but rather is dependent on how appropriate and effective the particular behavior is in a given situation in terms of its immediate or short-range adaptive success as well as in terms of its long-range, eventual consequences. For example, Goodall's (1979) observations of chimpanzee behaviors revealed that several animals in one group she studied developed a cannibalistic behavior of murdering and eating the infants of other mothers in the group. This behavior had immediate positive adaptive results for the murderers in that they were able to obtain

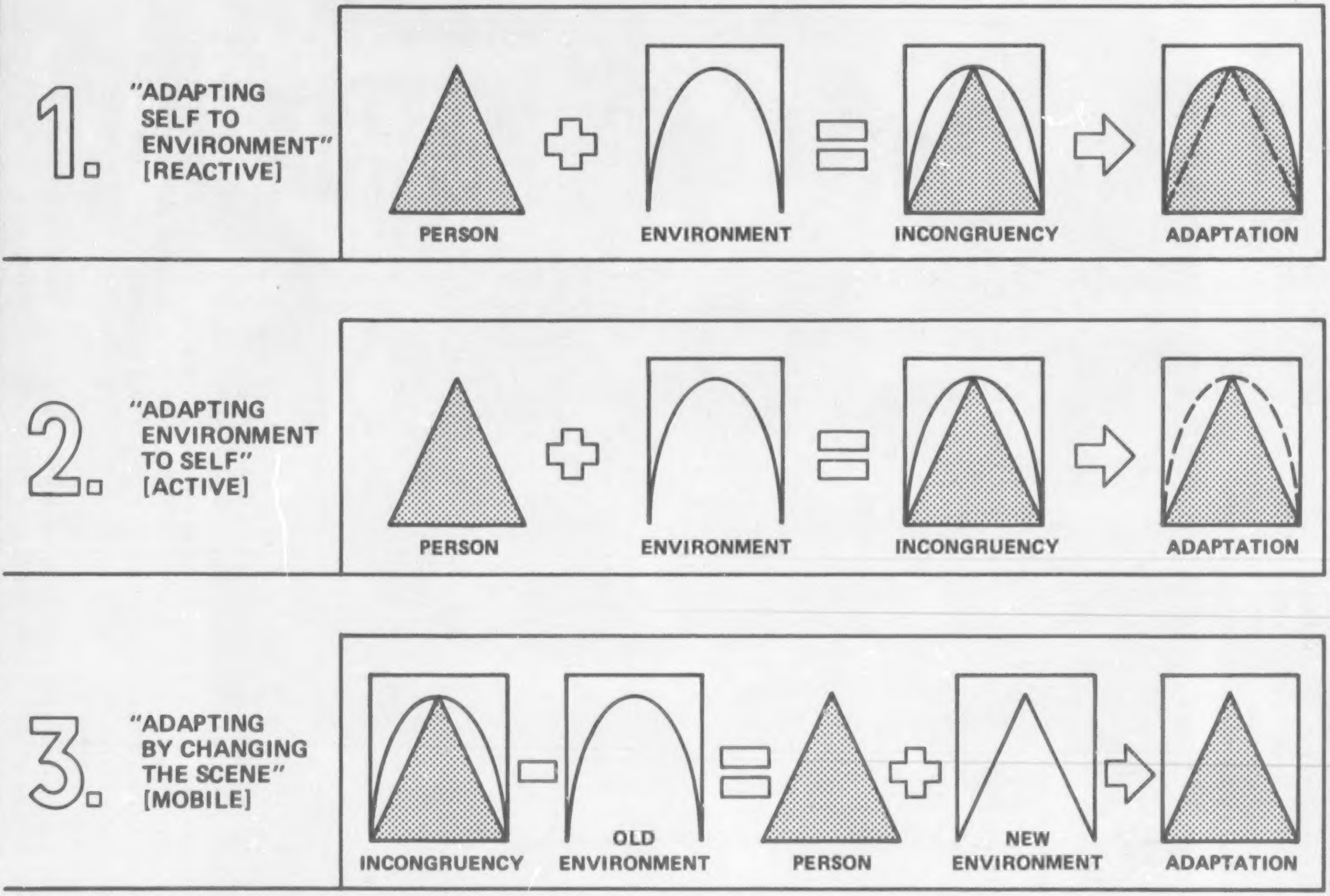

FIGURE 5. Styles of adaptation.

an easy meal, and Goodall noted that a subsequent offspring of one of the murdering females—a particularly robust infant—may have benefited from his mother's cannibalistic diet (Ibid., p. 620); however, the long-range consequences for the survival of other infants in the chimpanzee group may ultimately prove the cannibalistic behavior maladaptive.

Other evidence of how the Quality of an adaptive behavior depends on its circumstances include Lazarus' (1979) work on the adaptive utility of behaviors like denial and illusion in coping with stress in certain situations (such as the initial stages of adapting to a crippling physical impairment). Recall that in other situations, "... long-term avoidance of real problems tends to be maladaptive, at least if the stakes are high" (Hamburg et al., 1974, p. 426). Conformity, a social behavior, has also been shown to be maladaptive for individuals in some circumstances and highly adaptive in others (Kelly, 1966; Phillips, 1968). On the other hand, certain kinds of behaviors do seem to be more often adaptive or more often maladaptive for most people in most circumstances. For instance, learning behaviors are generally thought to be useful and adaptive for everyone, giving rise to popular maxims such as "A man [sic] can never learn too much." Other behaviors, such as Phillips' (1968) Turning against the Self or Turning against Others behaviors, are generally thought to be counter-productive for most people in most circumstances. Finally, it should be noted that the probable quality of a particular adaptive behavior may be dependent, in some cases, on the characteristics of the individual more than on the characteristics of the situation. Mechanic (1974) pointed this out in discussing the apparent inability of some effective copers (from a psychological perspective) who, because they are basically "loners" as opposed to "joiners," are unable to use "cooperative organized relationships with others" (p. 37) as effective means of adaptation.

Individual Adaptive Behaviors and Styles in Work

One of the most important adaptations of human cultures has been the pooling of human resources for the transformation and distribution of goods and services through the institutionalization of work. This has considerable import for the particular adaptive behaviors (as well as overall life adaptations) of individuals who participate in the work context. As Grinker (1974) states, "in a changing and complex industrial society, the individual must deal with novel situations, temptations, and opportunities both at work and off the job" (p. xiii).

As was noted in the preceding section, people frequently respond to pressure to adapt in the general context in patterns akin to adaptive styles, and the behaviors within the styles vary in Quality (efficacy and consequences), according to the situation and/or the personality and resources of the individual in the situation. Theorists studying adaptive behaviors in the work context have found similar, generalized tendencies or behavioral styles manifested in individual work-related behaviors. Likewise, adaptive work behaviors vary in their efficacy and outcomes according to the situation and the individuals in them.

Most of the theoretical research on adaptive behavioral styles in work has been conducted by Argyris (1964, 1973) and by the Work Adjustment Project of the University of Minnesota (Dawis & Lofquist, 1976; Lofquist & Dawis, 1969), although other work theorists (Altman, 1976; Porter et al., 1975; Scott, 1966; Thurman, 1977; Walton, 1974) have also discussed styles of occupationally adaptive behaviors. Argyris, whose Personality and Organization theory was reviewed in an earlier section, focused mostly on workers' adaptive behaviors as they are affected by the structure and practices of work organizations:

> Part of the adaptation [of workers to the work organization] may take the form ... of "accepting" the environment and the concomitant dissatisfactions, stress, and lower mental health that may be associated with it. However, employees are

> also capable of modifying their working world so that they can express some of their frustrations, decrease them, or partially avoid them. (1964, p. 59)

"Accepting" the environment amounts to conforming to it, and so may be considered what we call the *Reactive adaptive style.* * Modifying the working world is directly related to the *Active adaptive style.* While Argyris' interests were centered on adaptation within the context of one's current job, rather than with adaptive demands of mobility or careers, he gave brief attention to the *Mobile adaptive style*, pointing out that individual mobile behavior occurs within work organizations as well as via movements in or out of them:

> It is legitimate to ask if employees cannot adapt by leaving. They could "leave" by working their way up the organizational ladder into positions providing them greater self-determination. (1964, p. 73)

Argyris proposed that "the more rigidity, specialization, tight control, and directive leadership the worker experiences, the more he [sic] will tend to create antagonistic adaptive activities" (Ibid., p. 59). Potentially antagonistic behaviors are:

> (1) to fight the organization by trying to redesign it and gain more control by, for example, creating a union; (2) to leave the organization permanently or periodically [i.e., turn-over or absenteeism] ; (3) to remain in the organization but leave psychologically; to become uninvolved, apathetic, indifferent; to reduce the intrinsic importance of work; or (4) to increase the pay-offs for meaningless work [e.g., demanding increased wages as a substitute for satisfying work] . (Ibid., 1973, p. 144)

In addition, Argyris listed a number of what he called "upper-level" antagonistic behaviors (or behavior-linked attitudes) pertaining primarily to persons in managerial positions, including conformity [presumably where innovation would be more desirable] , mistrust, inability to accept new ideas, fear of risk-taking, ineffective decision-making, management by crisis, interdepartmental hostility, management by fear, politicking, and private deals (Ibid., 1964, p. 110). These behaviors are related to effective performance of managerial job content, and while they tend to be negative in their adaptive consequences (Quality) for the individual manager, relate to behavioral style as Reactive or Active behaviors (where behaviors such as avoiding taking risks, management by crisis, or conformity are essentially Reactive—adaptation of self—and behaviors such as interdepartmental hostility, politicking, and management by fear are Active—adapting the environment).

Lofquist and Dawis' Theory of Work Adjustment (1969; Dawis & Lofquist, 1976) is probably the most explicit consideration of occupational adaptation to date, although their perspective is somewhat limited by its emphasis (similar to Argyris') on adaptation *within the context of a job.* While the theory does maintain that work adjustment is "a continuous and dynamic process," *tenure* "is the most basic indicator of correspondence" (i.e., successful adaptation) and the theory essentially ignores occupational mobility (and implies that mobility is intrinsically maladaptive). Despite this shortcoming, the Theory of Work Adjustment presents a very useful model for understanding adaptive behaviors within a job:

> There are basically two ways in which an individual interacts with his [sic] work environment. An individual may act on his work environment to change it so that it will be more correspondent to his work personality [i.e., needs + abilities] , or an individual may react to his work environment by changing the manner in

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* The adaptive styles are illustrated in Figure 5, p. 83.

> which he expresses his work personality, so that it will be more correspondent to his work environment. (Lofquist & Dawis, 1969, p. 67)

It is from Lofquist and Dawis' model that the paper's Reactive and Active adaptive style dimensions are derived.

Dawis and Lofquist (1976) note that individuals do not limit their behaviors exclusively to one style. Styles (they call them *modes*) denote "the likelihood of using such behavior" (Ibid., p. 56). Which adaptive Style is more likely to be used by an individual is related to the characteristic patterns and needs in the individual's "personality structure" (Lofquist & Dawis, 1969, p. 68).

The Theory of Work Adjustment does not address the variable consequences of adaptive behaviors, but it discusses two important qualitative factors of an individual's adaptive behaviors, flexibility and celerity, that appear to be related to the behaviors' efficacy. Flexibility, which is how much "discorrespondence" (e.g., dissatisfaction, tension, stress) an individual is willing or able to tolerate in a work situation (Dawis & Lofquist, 1976), relates to the efficacy of the person's adaptive behaviors in that it probably affects what kind of adaptive behaviors the person is likely to use, and when he or she finds it appropriate to use them.* How much flexibility is efficacious depends, of course, on both the person using the adaptive behaviors and on the situation in which they are being used; too little flexibility could well result in a situation akin to "the boy who cried wolf," and too much flexibility could possibly result in a situation in which the person ends up being "taken advantage of." The other qualitative factor in adaptive behaviors, celerity, is the speed with which an individual responds to a condition of discorrespondence (Ibid.). The efficacy of adaptive responses may be strongly influenced not only by the selection of the most appropriate behavior or frequency (in effect, relative impact) of its use by the individual, but also by the appropriateness of its *timing.*

A number of other theorists have studied the patterns individuals display in adapting in the work world. Bakke (1953) discusses one kind of behavioral pattern of individual adaptation that he calls "personalization" of work. Schein (1968) calls the same pattern "innovation," and Porter et al. (1975) call it "individualization." Whatever the term, the pattern is essentially what we call the Active style in that it involves an individual's attempts "to influence the organization so that it can better satisfy his [sic] own needs and his own ideas about how it can best be operated" (Ibid., p. 170). Considerable mention is also made of the Reactive style, described by Porter et al. as "getting along" and "safety-first" strategies (Ibid., p. 202), and by Seashore (1975) as "psychological accommodation." Altman (1976) points out that a behavioral option to "withdraw from the context" (p. 32) exists when other strategies (i.e., Reactive or Active behaviors) are not effective. Porter et al., however, qualify this "last resort" mentality regarding Mobile behaviors, claiming that

> ... not all terminations are an indication that the adaptive process has broken down. We can categorize the termination act under one of the following four headings: (1) voluntary individual-initiated turnover; the employee decides that he [sic] will leave the organization, even though this decision is not forced on him by his personal circumstances or by the organization; (2) involuntary individual-initiated turnover; personal circumstances (e.g., family illness) force him to make a job change, even though he might wish to stay and the organization would continue to employ him; (3) involuntary organization-initiated

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* It should be noted, however, that some persons may give the appearance of flexibility by attending to conflicting adaptive demands via the use of a queueing process—that is, by attending to *all* demands by shifting responses according to current priorities This amounts, in effect, to a somewhat rigid response system, in that there is little real tolerance of "discorrespondence."

> turnover; the organization is forced for economic or other reasons to reduce the number of its employees, and they must discharge an otherwise satisfactory worker; (4) voluntary organization-initiated turnover; the organization decides to dismiss the individual because of some perceived inadequacies in the individual. Only in the first and fourth cases are we reasonably sure that the adaptation process has broken down. (Ibid., p. 216)

While work theorists have been concerned with individual patterns (or styles) of occupational adaptive behaviors, which of the adaptive behaviors belong in which category has been generally left unspecified. However, in reviewing other research on adaptation in work, much of which examines behavior-related problems in the work place, many specific kinds of worker behaviors come to light. The following sections contain an initial attempt, given the tentative style definitions, to categorize behaviors according to whether they function mostly within the Reactive, Active, or Mobile styles.

Judgments of the efficacy and consequences of the specific behaviors (i.e., their relative "adaptiveness or maladaptiveness") in the literature are generally based on the perspectives of the researcher(s); that is, a considerable portion of the research was conducted with its utility to *work organizations* in mind, although some of it was concerned with providing information for educators, counselors, and trainers, or for the individual worker facing career decisions. This review attempts to avoid taking a particular perspective regarding the relative adaptive versus maladaptive value of behaviors, although contradictions in researchers' findings on the quality of a particular type of adaptive behavior may be noted.

Reactive Work Behaviors

Considerable research has been performed in the area of worker alienation (e.g., Argyris, 1964; Chinoy, 1955; McLean, 1970; Strauss, 1974). While alienation is not a behavior *per se,* it is an element—and possibly a functional attitude—in a number of work behaviors. According to Strauss (1974), "if they have to, most people can adjust to nonchallenging work, usually by lowering their expectations" (p. 78). Sorensen and Kalleberg (1973) suggest a different but related kind of subjective adaptation: "unfulfilled aspirations . . . are likely to get alleviated by a lowering of aspirations over time" (p. 35). Another self-adapting behavior "is to protect or 'defend' the self from having to change by 'not seeing,' distorting, or rejecting what is 'out there' " (Argyris, 1964, p. 25). Alienation, because it involves a sense of personal powerlessness, and usually a lowering of self-esteem, can take other behavioral forms that seem to relate to Phillips' (1968) concept of Turning against the Self; examples of such behavior may include alcoholism and drug abuse (McLean, 1970), or psychosomatic illness and poorer health (Salamone & Gould, 1974).

Apathy, another aspect of alienation, has been characterized as a lack of interest or involvement in work, one of its most common behavioral manifestations being simple inaction (Argyris, 1964, p. 67). Other behaviors typical of a state of apathy include: dependent behavior (little personal initiative) and submissive behavior (Argyris, 1973); inattention on the job (Walton, 1972); and what Dawis and Lofquist (1976) call "reconciling oneself to the situation." People seem to find various ways of reconciling themselves to situations when they feel helpless to change them, and some of the behaviors they use to adapt are: cognitive distortion or rationalization (Seashore, 1975); fantasizing about better work and a better lifestyle for one's children (O'Toole, 1972; Strauss, 1974); exchanging a high value on the enjoyment of the work itself for a higher value on wages or other material compensations (i.e., exchanging intrinsic for extrinsic rewards) (Argyris, 1959, 1964, 1973; Strauss, 1974); or, in matters of the equity of wages or other rewards in the work context, changing the person or group used for comparison.

Another Reactive behavior that has been suggested is that of expressing one's needs outside of the work organization (Argyris, 1964, p. 73), also called substitution behavior (i.e., substituting the satisfaction found in an avocation or hobby or outside social life for the lack of satisfaction in the work itself). However, subsequent research (Meissner, 1971; Parker, 1971; Strauss, 1974) on people's use of recreation as a substitute for satisfaction in work, suggests that "workers do not counteract the effects of dull jobs through active recreation . . . the limited evidence does not support the trade-off hypothesis" (Strauss, 1974, p. 84).

The majority of the behaviors mentioned above are Reactive in that they involve adapting the *subjective self* to the environment, or adapting the *subjective environment* (that is, adapting one's perceptions of reality to maintain one's self-esteem). However, workers also adapt themselves to the *objective environment.* Conformity, discussed earlier (Argyris, 1964, 1973) is a common strategy of this type, and involves such behaviors as: developing a sense of purpose and function that connects one's job to the overall organization (Gooding, 1970); "learning the ropes" in an organization for holding onto a job (Humphries, 1979); and following the rules in an organization and performing one's job adequately (Porter et al., 1975). Some workers who dislike conformity justify it in the current job by developing a career orientation and viewing the job "primarily in terms of a stepping stone to better jobs" (Sorensen & Kalleberg, 1973, p. 26). Another way by which a person might adapt him- or herself to the objective environment is to change his or her "need structure" by adjusting his or her lifestyle downward, especially if the person does not see a raise, promotion, or higher-paying job as a realistic possibility in the near future.

A final set of Reactive behaviors mentioned in the literature relate to changing the objective person in what are generally considered positive ways: improving one's knowledge of the work organization (Porter et al., 1975); approaching and performing work as a form of self-expression (Gooding, 1970); improving one's own self-awareness, because "the self influences what the individual is able to 'see' in the environment, how he [sic] evaluates it, and how he deals with it" (Argyris, 1964, p. 24); improving one's work qualifications (Porter et al., 1975); diversifying one's talents, and learning constantly (Westfall, 1979); and, finally, developing good adaptive competencies (Ashley & Faddis, 1979a,b; Westfall, 1979).

Active Work Behaviors

One of the most readily recognizable areas of Active adaptive behaviors are those that involve some form of aggression. Argyris (1964, 1973), claiming that aggression is primarily used by employees against the work organization when they believe the organization is to blame for frustration and conflict in the work setting, listed a number of related behaviors, including stealing, cheating (on production records), causing waste, and causing errors that slow down work or reduce its quality. Walton (1972) listed pilferage, theft, waste, sabotage, assaults, and bomb threats among aggressive, conflict-oriented behaviors, and Sorensen and Kalleberg (1973) added aggressive disruption of work routines. Behaving in a competitive manner in the performance of work or related social activities may also be a form of aggression (Argyris, 1973; Humphries, 1979), though some see it as more of an assertive behavior, and its relationship to a Mobile behavior style as well as the Active style is fairly clear.

A number of "informal activities" that are generally frowned upon by work organizations are used by individual workers in attempts to adapt, restructure, or "compensate" for incongruencies in the worker-work relationship. These include: informally decreasing one's overall productivity (Strauss, 1974); deliberately producing poor workmanship (Katzell & Yankelovich, 1975); and "banana time" (Argyris, 1973) or loafing (Katzell & Yankelovich, 1975). Informal behaviors that relate mostly to managers include management by fear, informally resisting enjoined changes, making private deals, and politicking (Argyris, 1964). Strauss (1974) adds the behavior of empire-building to a manager's informal adaptive activities.

Interpersonal behaviors play important roles in a worker's efforts to adapt the environment to his or her own needs or desires. Many of the behaviors relate more strongly to group strategies, which will be discussed in a later section. Interactions with others in the work context are frequently one-on-one, however, and express an Active behavioral style. They include: showing belonging (Scheele, 1977) and showing or expressing concern for others in the work context (Katzell & Yankelovich, 1975); improving or making the most of social roles or opportunities (Porter et al., 1975; Strauss, 1974); showing indifference (or, conversely, paying attention) to customers or clients (Katzell & Yankelovich, 1975); expressing distrust (or trust) (Argyris, 1964); and, chronic complaining (Strauss, 1974).

Active behaviors also take the form of worker-initiated formal or quasi-formal interactions between the individual worker and the work organization (or its representatives). Some of these include: bargaining for changes (Miller & Form, 1964) in the sense of asking for increased compensation or the redesigning of the organization (Argyris, 1964, 1973); suggesting improvements in production methods (Katzell & Yankelovich, 1975) or job content (Porter et al., 1975; Thurman, 1977); and filing grievances (Humphries, 1979). Other Active behaviors might be used by individual workers with the intention of their being noticed by the work organization, so that the organization will respond in some positive way that will allow the individual worker more autonomy, variety, etc., on the job. These behaviors include increasing one's own overall productivity (Katzell & Yankelovich, 1975) and increasing or emphasizing the use of favored abilities (Adams, 1963; Miller & Form, 1964); taking calculated risks regarding job-content-related decisions (Scheele, 1977); exhibiting specialization (Ibid.); magnifying one's accomplishments (Ibid.); and exhibiting what Love (1979) and Mills (1953) mean by "intrapreneuring"—the willingness and ability to direct or perform in independent projects *within* a work organization.

Some Active behaviors appear to be related to how much control and/or enjoyment the individual worker wants to get from the performance of his or her job activities. Entrepreneurship—setting up one's own business—is an Active adaptive behavior in this sense. Others are: transferring one's skills (Copa, 1979; Humphries, 1979); experimenting with situations or ways to go about behaving or doing things (Scheele, 1977); self-pacing and organizing one's own work cycle or tasks; and balancing between the "most elegant" way and the "easiest" way to perform a work task.

Finally, an important behavior related to the Active style is simply waiting (Porter et al., 1975). This may seem contradictory at first thought. However, waiting is not always the same thing as doing *nothing;* rather, it can be a way of allowing a situation to develop. As such, it is a risk-related strategy that, used judiciously, may eventually result in the environment adapting itself to the worker. Sometimes waiting is the most practical action, especially if the "stakes" are high and other modes of behavior are temporarily blocked.

Mobile Work Behaviors

Instances of occupational mobility in an individual's life take many forms, some of them minor, others critical, some of them voluntary and some of them not. Most of the behaviors involved in "changing the site" of the work environment pertain to the nature of the mobility. For instance, a number of Mobile behaviors do not involve changing jobs at all, but more resemble avoidance behaviors, such as tardiness (Katzell & Yankelovich, 1975; Walton, 1972) and absenteeism (Argyris, 1959, 1973).* Changing work groups or transferring within the same organization without changing job titles are also examples. Most of the Mobile behaviors, however, seem to cluster into groups related to moving in or out of jobs or careers: (a) selecting, hunting, and getting a job or career (whether the first one or a new one); (b) seeking and getting promotions or transfers; (c) withdrawing from the world of work; and (d) other mobility-related behaviors.

Job-seeking and job-changing behaviors. A complex of behaviors, not always specified, seem to come into play in an individual's efforts to enter or change jobs, careers, or work organizations. Literature dealing with these transitions discusses the importance of: assessing one's abilities and establishing (and periodically reassessing) one's career goals (Humphries, 1979); investigating occupations and making a selection (Dunnette et al., 1973; Scott, 1966); investigating and assessing the work organization of interest in order to determine its probable congruity with the individual's needs and desires, and to determine how others have succeeded there (Humphries, 1979); identifying skills or additional education needed to move into a desired position (and, of course, taking appropriate action) (Ibid.); using "catapulting"—that is, making alliances in the new or prospective environment and linking with them and it (Scheele, 1977); and risking "linking"—taking calculated risks in making job-changing decisions (Ibid.). Of course, job-getting skills such as writing resumes, filling out job applications, interviewing, and some nontraditional approaches (e.g., Crystal & Bolles, 1974) are important parts of the job-getting behaviors.

Task-related behaviors apply in most job-entry or job-changing situations. However, certain kinds of more broad behaviors are also involved. These include: entering a first job or career; resigning or quitting a job (turnover) (Adams & Lindemann, 1974; Argyris, 1959, 1973; Thurman, 1977); seeking a new work organization in which to work in a similar job; getting out of a dead-end job or changing careers (Hamburg et al., 1974; Porter et al., 1975); becoming an entrepreneur (Love, 1979; O'Toole, 1972); or reentering the work world after considerable time away from it.

Transfer or promotion-seeking behaviors. As mentioned, many of the task-related Mobile behaviors discussed above also apply in other job-changing situations, especially self-assessment, "using catapulting," and risking linking. Other task-related behaviors seem more apropos of seeking transfers or promotions within the work organization in which the individual is already employed. These include exhibiting certain kinds of behaviors in the current job in order to establish the individual's competence and merit for the transfer or promotion, such as: taking on additional functions and responsibility (Humphries, 1979; Porter et al., 1975); taking risky assignments and solving crises (Porter et al., 1975; Scheele, 1977); developing specialized and/or higher-level skills and unveiling them at an opportune moment (Humphries, 1979; Porter et al., 1975; Scheele, 1977); exhibiting interpersonal competence and cooperativeness (Humphries, 1979); making influential allies ("hitching your wagon to a star") (Porter et al., 1975); experimenting with situations and showing successful innovative behavior (Scheele, 1977); documenting and magnifying one's accomplishments (Ibid.); and asking and/or bargaining for the transfer or promotion (Porter et al., 1975). As was noted earlier, waiting is also sometimes a useful or necessary adaptive behavior in the Mobile style as in the others (Ibid.).

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* Ilgen and Hollenback (1977) contend that absenteeism cannot always be construed as an avoidance behavior, in that "attendance is the converse of absence," and time away from work can be highly adaptive: "Company policies that allow for more frequent absences may provide a basis for greater satisfaction" (p. 159).

Certain kinds of behavior are inversely related to mobility in that they are attempts to prevent it. An instance is the use of "creative incompetence"—deliberately exhibiting selected incompetencies that will prevent the individual from being transferred or promoted into a position that he or she does not wish to have (e.g., evading the "Peter Principle").

Moonlighting (Bryan, 1973; Strauss, 1974) is a maverick among work behaviors in that it does not seem to fall readily into any adaptive work style. It is, however, an adaptive strategy that may relate to a person's overall life adaptation as opposed to adaptation in a specific work context. It does seem to be involved in certain aspects of mobile behavior, according to Bryan (1973):

> ... in many cases, it [moonlighting] permits a man [sic] to stick with a low-paying, but otherwise desirable, regular job. It allows people to make the transition from one type of work to another, and it sees them through economic pinches. In many cases, the moonlight job complements formal training to constitute an effective kind of work-study program. (p. 3)

A final category of the Mobile behavioral style includes movements out of the world of work. Argyris (1973) discussed "dropping out" of the labor force in terms of withdrawal into commune-type living, but there are a range of other behaviors that are partial or complete departures from paid work. Retirement is an example, though many retirees become involved in volunteer work. Reducing one's work role from full-time employment to part-time employment is another instance of a kind of Mobile behavior. So is working temporarily to help someone out or to earn extra money. The marginally employed, who move from one kind of temporary job to another and are frequently unemployed, also exhibit uniquely Mobile behaviors. Many workers depart from the labor force to seek additional education or to raise families, and plan to reenter the work world at a later date.

Summary of Individual Adaptive Behaviors and Styles

The adaptive behaviors of individual workers seem to fall into three styles: Reactive (adapting the self to fit the environment), Active (adapting the environment to fit the self), and Mobile (adapting by changing the site of work). Adaptive behaviors also vary in Quality, which is their efficacy, consequences, and orientation (i.e., attitudes relative to self and/or environment).

Literature studying work behaviors seems to concentrate on the Reactive style, and views workers as primarily conformists: "Job adaptation [is accomplished] partly through locomotion, but largely through accommodation" (Scott, 1966, p. 394; see also Argyris, 1973). Much of the work behavior literature also displays obvious biases, primarily from the perspectives of work organizations (many studies were conducted by industrial psychologists). The types of behaviors studied and the wording used in describing them reflect value judgments. As a result, the majority of the Reactive and Active behaviors gleaned from empirical research are those considered by work organizations to be maladaptive (such as withdrawing psychologically from work, seeking higher wages in compensation for satisfying work, "banana time," or filing grievances).

Theories of work that consider adaptation tend not to consider occupational mobility except as it relates to occupational selection and initial job entry, and little research seems to exist on specific Mobile behaviors. In order to fill in obvious gaps, the review of the literature was expanded to take advantage of adaptive strategies and behaviors discussed in some less formal kinds of publications as well as the formal presentations of theory or empirical studies.

Many adaptive behavioral options are available to the individual worker, but as it often happens, an individual is not in a position to use the most potent behaviors, or the adaptive incongruency is beyond the power of individual behaviors to change. In such situations, individuals often resort to collective action. The next section examines what is known about the adaptive strategies of various worker groups.

Adaptive Behaviors and Styles of Worker Groups

Unless a person is a hermit, he or she participates in and belongs to many groups, both actively and as a demographic member. As Phillips (1966) has pointed out,

> the feature unique to the environment of humans is active participation with other people. . . . Other people provide the critical context within which each person operates. (p. 8)

This section examines important aspects of groups in or related to the work context, what kinds of important functions such groups perform for their members and what strategies they use to perform them, how individuals may function within their groups, and how those functions and other group factors affect the Quality—e.g., effectiveness—of group adaptive behaviors.

Social scientists seem to disagree on what characteristics define a group versus a nongroup (Cartwright & Zander, 1968), but Hackman and Suttle (1977) offer a tentative definition that is useful for examining groups in a work context:

> A human group is a collection of individuals (1) who have significantly interdependent relations with each other, (2) who perceive themselves as a group by reliably distinguishing members from nonmembers, (3) who have differentiated roles in the group as a function of expectations from themselves, other group members, and nongroup members, and (4) who, as group members acting alone or in concert, have significantly interdependent relations with other groups. (p. 230)

Work-related groups take a variety of forms, from the very formal type such as unions or designated work teams, to quasi-formal groups such as task-induced intergroups (e.g., blue-collar or white-collar, workers or supervisors, etc.; see Hackman & Suttle, 1977) and professional associations, to informal groups in the work environment whose members share common interests and/or provide mutual support (e.g., gripe-groups, informal friendship groups, or recreational teams) or who share common characteristics (e.g., older or younger workers, female or male, racial or ethnic clusters, etc.).

Belonging to and participating in work-related groups may serve a number of functions for its members. Groups may help their members adapt in a Reactive fashion when necessary, that is, help the members adapt themselves to the work environment, by (a) serving and maintaining members' self-esteem, (b) confirming and protecting a common view of "reality" regarding the work environment and/or other groups, and (c) increasing members' work-related knowledge and skills.

Mechanic discusses one of the most important adaptive functions of groups, the maintenance of members' self-esteem:

> . . . the ability of persons to maintain psychological comfort will depend not only on their intrapsychic resources, but also—and perhaps more importantly—on the social supports available or absent in the environment. Men [sic] depend on others for justification and admiration, and few men can survive without support from some segment of their fellows. (1974, pp. 33-34)

Some involvement with others in groups or organizations helps workers meet their needs for maintaining a sense of identity and personal worth. This is facilitated not only by members' identification with the group, but by interaction—and the assumption of roles—within it. This is especially true of informal groups. "A person's social relationships, probably more than any other single factor, determine the nature of his [sic] self-concept" (Ibid.). Groups may also help members build or repair self-esteem and provide emotional or other support in times of crisis (e.g., informal or formal support groups such as AA, etc.).

On the importance of a group's common perception of reality, Mechanic claims,

> Reality is, of course, a social construction, and to the extent that perspectives are shared and socially reinforced they may facilitate adaptation irrespective of their objective truth. It is well known that if men [sic] define situations as real, they are real in their consequences. (1974, p. 38)

The importance of this group function to individuals is that people often make use of their social interactions to "obtain valuable information about themselves and the environment in which they operate . . . [and] the degree to which a person can obtain it on his [sic] own is severely limited by his restricted time-and-place perspective" (Ibid., pp. 39-40). In addition, work-related groups help establish and maintain a uniform sense of reality by defining norms around the importance of work, what constitutes success, how one is to behave in the workplace, what cues should stimulate which work behaviors, and so forth (Hackman & Suttle, 1977; Phillips, 1968; Porter et al., 1975).

Besides affecting members' subjective self, work-related groups may also affect the person's objective self, especially by increasing the knowledge and skills the members need to perform their jobs. Work teams may do this by teaching each other on the job. Some unions set up apprenticeship standards and may even provide training. Professional associations are particularly active in this area, with many associations sponsoring workshops, conferences, symposia, journals, and newsletters in order to help members expand and update their knowledge and skills. Professions also set performance standards for their members that affect the minimum competencies for the group, and that may exceed the standards of work organizations employing members of the profession.

Groups serve yet another vital set of adaptive functions for their members via collective actions —Active behavioral strategies—that attempt to mold aspects of the work environment to the group's (and hence, its members') needs or desires. Mechanic (1974) notes,

> As solutions to important problems become more complex, these problems are less likely to be resolved by individual initiative and action. In contrast, they are likely to depend on the ability of men [sic] to work out organized solutions involving group actions. (p. 35)

It is in the Active behavioral strategies that groups have their most visible adaptive capacities. Collective action in the form of establishing unions or making use of established unions to apply collective pressure on the work organization or government agencies (the latter by lobbying) may be one of the most powerful adaptive group actions. Unions have a fairly standard repertoire of collective activities that help them to adapt—at least to some degree—the elements of the work-related environment that their membership wants to affect. Collective behaviors include negotiations with representatives of the work organization or industry, organized slowdowns, resorting to legal action, and, when necessary, strikes ("open warfare"). Less formal activities that may be aimed at a work organization, an entire industry, local or national government bodies or agencies affecting the work environment, or the public, include boycotts, letter campaigns and advertising (consciousness-raising), picketing, and (as mentioned above) lobbying (Hackman & Suttle, 1977; Porter et al., 1975; Thurman, 1977).

Unions in the United States have as their primary purpose the increase of economic opportunities for their members. In some cases this involves the rationing of the available jobs, and collective bargaining for the maintenance or creation of unneeded jobs in organizations (i.e., "featherbedding"). Unions have had other interests besides higher wages or better working conditions, however:

> Workers in the United States unite primarily for economic reasons, but also for social and psychological reasons. . . . Unions provide workers with fulfillment, security, protection, and strength. They relieve workers of anxiety and frustration and provide them with pride, prestige, and status. In newly developing industrial nations, labor unions are generally less concerned with job rights and more concerned with national interests. (Heneman, 1973, pp. 19-20)

Quasi-formal groups such as task-induced groups or professional associations do not appear to take direct action on the environment except in those instances where professions stipulate standards, work content, level, and acceptable starting wages for their members. In that members avoid accepting jobs with organizations offering less acceptable situations, the professions' standards are honored by work organizations. Some professions, however, limit the adaptive potential of their members. An example is the professional associations' ban on advertising by physicians and lawyers, which, while no longer official (in fact, lawyers' right to advertise is protected by legislation in most states), is still the rule rather than the exception.

Informal groups are another way by which workers attempt to modify their work environment. While much of the purpose of informal groups is to allow the members to support each other's frustrations and share in each other's successes, "a cohesive work-group may also reinforce the expression of negative attitudes if all workers share a similar discrepancy" (Sorensen & Kalleberg, 1973, p. 37). These latter behaviors usually take the form of collective, though usually covert, aggression against the work organization (or its representatives), including informal quota restrictions, goldbricking, slowdowns, rate setting, stealing, causing waste, and sabotage (Argyris, 1964; Sorensen & Kalleberg, 1973). The aggressive activities may eventually become institutionalized via creation of a labor union—usually a more positive, efficacious form of collective action (Sorensen & Kalleberg, ibid.). Where individuals who are nonmembers of the group, or other informal groups, are the source of environmental conflict, interpersonal or intergroup problem-solving (usually via meetings on "neutral" ground, or bringing in a neutral party as a referee/negotiator) and interpersonal peacemaking are potential Active behavioral strategies (Argyris, 1964; Hackman & Suttle, 1977).

Needs for Mobile behavior may be served by membership in some groups through communication of information as well as by more active group (or interpersonal) action. For instance, many unions provide information for union members about jobs available locally with work organizations within the industry. Unions may also put pressure on work organizations to create jobs for union members, or to delay or stop layoffs of union members. Professional associations frequently provide meeting places at their conferences for recruiting activities of work organizations with high memberships. Informal groups may pass along information about upcoming opportunities for transfer or promotion within a work organization, as well as forewarning of upcoming organizational upheavals or more localized supervisory decisions affecting a friend or associate's job—a distinct advantage in either situation that could affect the informal group member's mobility options. Finally, interpersonal contacts within formal, quasi-formal, or informal groups may smooth the way for members' transfers, promotions, or moves to a new work organization.

Membership in any group, whether formal, quasi-formal, or informal automatically carries with it the acceptance of a role—usually thought of as the "expectations which are shared by group members regarding who is to carry out what types of activities under what circumstances" (Phillips, 1968,

p. 373)—in that group. Pressures within most groups for conformity are strong because the adaptive utility of collective activities for group members is highly dependent on how cohesive the membership is with regard to group values and goals.

> Curiosity, intrinsic motivation, and exploration . . . have little or no place in many groups. In extremely undifferentiated and dictatorial groups, exploration of means and even the slightest questioning of ends may, because of the possibility of generating too much diversity for the system to cope with, be prevented at all costs. (Harvey, 1966, p. 11)

In many instances, his or her conformity to role (what Woditsch, Note 2, calls "Role Taking") achieves the individual member's personal adaptive goals. However, "conformity to group norms which occurs in highly cohesive groups may not be functional" (Phillips, 1968, p. 406) for either the group or the individual.

Woditsch disagrees with traditional sociological notions of "role," which emphasize conformity, and instead proposes that "roles should be viewed as products of an individual's own morphogenic processes rather than as sets of behavioral 'uniforms' prefashioned by society" (Note 2, p. 3). Woditsch views adaptation, as it relates to roles, as a day-to-day process that interacts with the rules and policies affecting roles, periodically reappraises them, and modifies the role *and* the rules and policies—"sometimes slowly and crescively, sometimes rapidly and conclusively" (Buckley, quoted in Woditsch, ibid.). In this sense, an individual has the option of being a "Role Maker," rather than a "Role Taker"—which "suggests much greater scope for an almost reflexive *choice* by human agents regarding which of a range of behaviors might be employed in any given instance" (Ibid., p. 6).

Roles in reference to work-related groups seem to fall into certain categories, which may include (a) leadership, (b) active membership, (c) passive membership, (d) ex-membership or outcasts, (e) nonmemberships, and (f) nonmember antagonists or enemies. Within any of the participative "roles" —that is, the first three categories—upward mobility in a work group (e.g., going from active membership to a leadership role) may be construed as an Active behavior for that individual, and may provide opportunities for power, recognition, belonging, and self-actualization, both as a member of the work-related group and—through the use of one's role to affect the work environment—as a worker. An example might be moving into a role of union stewardship, which in turn affects the status one has in the eyes of management, and may affect the behavioral options the person subsequently has regarding making—or preventing—changes in his or her own work as well as that of other union members.

Summary of Adaptive Behaviors and Styles of Worker Groups

Participation in groups of any sort within the work-related environment presents unique opportunities for achieving solutions to an individual's work-related adaptive challenges, but at the same time it poses new adaptive tasks. An individual is required, as a group member, to serve specified and unspecified group functions within his or her group role(s), for which he or she may expect to be rewarded with various kinds of support, such as a sense of identity, belonging, and self-esteem, and maintenance and protection of a consensus "reality". In addition, in certain kinds of groups, the person may expect cooperative attention to certain adaptive tasks that he or she has in common with other group members, such as acquiring new knowledge or skills relevant to the work environment, and seeking ways to express concern as well as make or resist changes in relation to some aspects of the work environment.

Problems may ensue in regard to group participation, however. If the group fails to integrate itself adequately with regard to the work environment and other work-related groups with which it coexists, its adaptive efforts on behalf of its membership may fail. An example might be an informal work group or union whose expression of discontent with aspects of a work organization takes the form of a covert group slowdown, which in turn results in a loss of an important work contract for the work organization, and a subsequent layoff of some members of the informal work group or union. Intergroup rivalries are also another source of potentially counteradaptive outcomes.

Pressures for group conformity may prove to be counteradaptive for individuals, as well. Group cohesiveness, which is necessary for effective group action on the environment, is not the same as conformity, in that cohesiveness is a uniformity of group purpose and commitment to action, while conformity may involve a submergence of the individual and his or her own goals and values in those of the group, resulting in a lessening of personal adaptive efficacy. While it should be possible for group members to approach their role(s) in work-related groups in an innovative fashion, this seems to be more the exception than the rule. In fact, as Mechanic points out, "it has been very common for social scientists to explain data after the fact by arguing that a person's behavior was a result of choosing particular reference groups" (1974, p. 42).

In a different vein, the many advantages of efficacious adaptation through group participation are avoided, and sometimes not available (as in the case of racial or sexual biases), to some people. Mechanic discusses an aspect of reluctance to participate in groups in reference to scientists:

> . . . because of the costs and expansion of technology and specialized knowledge, team research is becoming more of a necessity. Yet, there are strong resistances to working cooperatively among many scientists who are highly individualistic and competitive in their orientations. (1974, p. 37)

Many people face conflicts in deciding just how involved to become in work-related groups, and vacillate between group participation and independent action. It is uncertain—or rather, it is person- and situation-dependent—how adaptive such vacillation may ultimately prove. Nevertheless, social interactions, be they one-on-one or group-related, are part of any work environment at some point and to some degree, and the necessity for at least minimum interpersonal competence becomes obvious for the adaptation of individuals *as* individuals as well as individuals as members of groups.

> The social environment is of major significance as a source of stimulation and of information relevant to survival in a world of uniquely human significance. The stimulating and organizing properties of the social environment play significant roles in the efficacy of the individual's adaptive pattern. (Phillips, 1968, pp. 193-194)

Organizational Adaptive Strategies and Behaviors

The major adaptive activity of any work organization is to adapt itself to its market. However, every work organization depends on people to perform many, if not most, of the functions and decisions inherent in production or the performance of services. As such, organizations themselves must act in adaptive ways to meet internal adaptive needs. They must adapt to the workers in terms of people's changing needs and desires regarding work, as well as adapt to the workers' various capacities to perform needed work functions, to the existence and influences of various kinds of work-related groups, and to constantly changing factors in the external environment as well. At the same time, work organizations find it necessary to attempt to adapt their workers, work-related groups, and—as much as possible—the external environment.

In a sense, organizations respond to internal adaptive need as entities, working mostly through management and the formal organizational structure. The repertoire of adaptive responses of work organizations, especially in reference to workers and work groups, is important for understanding the occupational adaptability of individuals in the work world. However, the focus of this paper is on individuals and, as such, this section will contain no more than an overview, rather than an analysis, of literature on organizational adaptive behaviors and strategies as they relate to workers.

Adaptive behaviors in work organizations are stimulated by change or by the need for change in the internal or external environment. Change may be unplanned or planned. Unplanned change, such as skyrocketing interest rates on bank loans, destruction of facilities or products by sabotage or acts of God, the fuel shortage, etc., generally demand some adaptive response from the organization. How—and if—an organization responds to more gradual or less immediately threatening change seems to depend more on conscious, deliberate, and collaborative effort that involves "inventing a future" and creating conditions and resources for realizing an adaptive response (Lippit & This, 1979, p. 24). In other words, how an organization responds depends on its attitude toward responsiveness.

In respect to adaptive strategies with which organizations may respond in reference to their workers, they, much like workers, have a fairly limited set of response styles available. Organizations may choose to try to adapt to the needs and desires of workers and work groups; they may choose to try to adapt the workers and work groups to organizational needs and desires; or, they may choose to respond with some form of organizational mobility (such as closing operations in a "hostile" or unprofitable locale and relocating elsewhere). In order to adapt, "organizations must act on two assumptions: (1) individual behavior can be modified; (2) the work environment can be modified" (Porter, 1973, p. 113).

Organizations Adapt Workers

Basically, this organizational adaptive strategy includes three ways by which workers can ideally be affected to behave in ways congruent with the needs and desires of the organization: (a) via worker selection, movement within the organization, and firing policies and procedures; (b) by socializing and training practices; and (c) by administrative application of rewards and/or punishments (in effect, "behavior mod"). The influence of the Human Rewards movement in work theory (Taylor, 1911; etc.) is occasionally visible in some organizational philosophies concerning socialization practices and rewards administration. However, there is some necessity for them in any organization, even the most progressive, and value judgments are avoided as much as possible in this review.

One of the most important points at which the probable adaptive interrelationships of workers and work may be affected is in the matching of workers and work at the time of hiring—or, from the perspective of the worker, the time of accepting a position (Carlisle, 1973; Katzell & Yankelovich, 1975). It is vital that employees be selected who can perform the work at least on an adequate level. Sorensen and Kalleberg (1973) claim that "characteristics of men [sic], jobs, and the labor market will determine who will get hired into which job" (p. 25), but this overlooks the importance of organizational hiring practices. The matching process—which involves not only job descriptions and the corresponding skills and knowledge of workers, but such things as information on careers and available positions, some understanding of adaptive skills and transferable skills, and the use of and reception to traditional (as well as nontraditional) job-seeking strategies (Crystal & Bolles, 1974)—is responsible for the potential quality as well as extant quantity of human resources in a work organization. As Porter states, "satisfactory work performance depends on the adequacy of employee selection, and since hiring is often haphazard . . . a match between organizational needs and employee behavior occurs often only by chance" (1973, p. 114). Few organizational hiring policies seem to be concerned with the adaptive potential of employees (with the possible exception of filling executive or managerial positions).

Moving workers around in an organization is another strategy for matching people to jobs. Transfers and promotions—and occasionally demotions—fall in this category, although they can also be construed, in many situations, to be acting as incentives, too. A related strategy, used primarily in organizations with union problems or in the upper echelons of management/administration, is the practice of giving certain persons what is called a "lateral promotion"—that is, funding a harmless position with little responsibility in which to "promote" the person—who may be incompetent or a troublemaker, but cannot gracefully be let go. Moving workers out of the organization is another strategy in this category, usually involving firing employees, encouraging resignations, or encouraging early retirements.

Workers entering a work organization "require a degree of socialization in the sense that the new worker has to become accustomed to the habits, mores, and routines of the work place and the work groups" (Freedman, 1976, p. 92). Organizations are also interested in beginning to build loyalty in the new worker (Katzell & Yankelovich, 1975). In situations where little or no technical training is required before the new worker can commence actual job performance, socialization is also usually given little formal attention by the work organization, and is generally left to the first-line supervisor or even the coworkers to perform. In other cases, orientation programs may be provided. These are often part of an organization's training program for incoming workers.

As regards training programs—a potent area in which organizations have an opportunity to "mold" workers, both in terms of socialization and in terms of skills needed for job performance, to the organization's purpose—Porter notes,

> Most organizations implicitly believe that individual behavior can be modified, and yet they fail miserably to act on that assumption. At best, they adopt some sort of formalized training program designed to convert a recruit into a minimally qualified employee. Most training focuses on limited objectives and fails to take into account motivation and behavior change. Furthermore, much of the training is concentrated in an extremely short segment of time during the initial few days or weeks of employment and produces nothing in the way of behavioral effects beyond that period. It is as if the organization does not expect the individual to change from that time on. (1973, p. 113)

However, Rhode and Lawler (1973) point out that "because people, unlike machines, can continue to add to their skills, an individual's value can increase beyond that of his [sic] training cost" (p. 160). Many organizations have taken heed of the potential values not only of effective initial training, but of promoting continuing growth of knowledge and skill in their work force, especially in view of rapid technological change affecting the required competencies of workers. As a result some strategies to encourage workers to continue learning are used in some organizations, including providing incentives to motivate the workers to continue learning, and offering tuition refunds for job-related courses taken in external educational institutions (Discussion, 1979; Dubin, 1973).

The use of rewards and punishments has been probably the primary focus of organizations' adaptive efforts to shape worker performance to organizational needs. It has also been a primary focus of theories of work,* which have variously recommended (a) higher wages and the reduction of fatigue (Human Rewards movement), (b) an emphasis on improved human relations (Human Relations movement), (c) the enrichment of job content to increase the intrinsic satisfaction of working (Job Satisfaction movement), and (d) the inclusion of all three previous reward systems along with a humanistic restructuring of organizations and organizational policies to take into account the overlap of human work and human lives as a whole (the Quality of Work Life movement). Organizations take ideas from these theories, and modify and apply them according to their own basic philosophies, but the notion that appears to govern most organizations' reward philosophies is that of behavioral modification—in whatever form the organization perceives it. The most common idea seems to be, "If workers do well, reward them; if they do poorly, punish or fire them."

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* The various theories are reviewed in an earlier section, "Adaptation and Theories of Work," p. 16.

Apparently, a great many organizations adhere to the Tayloristic view (Taylor, 1911) of behavioral modification (though Taylor, of course, did not call it that); that is, workers are motivated to be productive when they receive the highest wages possible for the least fatiguing work. Other, more sophisticated (and, if the Job Satisfaction and Quality of Work Life literature are to be believed, more effective) methods of "motivating" workers exist, but require considerable attention on the part of work organizations. Probably, the Tayloristic reward philosophy continues to be popular because, of all the approaches, it requires the least amount of organizational adaptation *to* the workers in order to extract adequate productivity from them.

Organizations Adapt Themselves

As mentioned above, the use of reward systems to motivate workers to perform at least adequately require some degree of organizational adaptation to workers. This is especially true in most Job Satisfaction notions, in which financial compensation of workers is linked to individual performance, job content is enriched, participation in decision-making about job methods or assignments is allowed, and so forth (Katzell & Yankelovich, 1975). Organizations have developed quite an array of approaches, or strategies, to establish these presumably effective motivational programs, and the approaches vary considerably in the degree of organizational adaptation required. Aspects of the work environment that are typically involved in organizational adaptation include the content of jobs and the physical and/or formal interpersonal factors in the immediate work environment of the jobs, the parts of the organizational structure that affect individual workers or work groups, and the distribution of rewards.

Adapting job content. One of the most popularized organizational techniques for motivating workers involves redesigning the content of jobs. Job redesign, which is a change in the "nature or scope of activities comprised by a job," includes either or both job enlargement and job enrichment (Katzell & Yankelovich, 1975, p. 416). Job enlargement is essentially concerned with increasing the variety or diversity of job activities, and job enrichment with increasing the level of responsibility, challenge, or meaningfulness of job activities. Job redesign is expected to give a worker "a greater opportunity to use more of his [sic] important abilities" (Miller & Form, 1964, p. 631). A related strategy is job rotation, which "refers to movement of the worker among different jobs . . . [and] holds the promise of adding more possibilities for growth and new experience" (Ibid., p. 632). Additional advantages of job rotation might include reduction of job monotony, more opportunities for social interactions, an appreciation of the work involved in the whole production line, and a feeling of increased personal competence in knowing all of the jobs (Ibid.).

Allowing individual workers to allocate their time on the various tasks of their jobs, so long as specified tasks are accomplished within time limits, is also in use in some organizations (Porter, 1973, p. 128). Flextime is another organizational strategy that allows individualization of jobs by broadening the adaptiveness of the organization (Ibid.).

Adapting the immediate work environment. In that job rotation, self-scheduling of work tasks, and flextime dovetail with other jobs in the immediate work environment, those organizational strategies require the allowance of a certain degree of decision making at the level of the work group. The degree of participation by work groups, and their consequent level of autonomy and responsibility, are determined, in most organizations, at the management level. Many organizations seem to be loath to increase such work group participation, however, probably because it inevitably involves some decentralization and a sharing of control. Participation may include: work groups having a voice in plans and decisions relating to their work; work teams being allowed to select themselves through sociometric methods, and to identify and select work goals; abolition of time clocks; putting quality control in the hands of the work group; and selection of work team leaders by the team members themselves (Argyris, 1973; Champagne, 1972; Katzell & Yankelovich, 1975; O'Toole, 1972; Porter, 1973). When work groups are not used to make work-environment decisions, some organizations make use of union communications, or set up temporary worker-management teams to consult on changes to be made in the immediate work environment.

Adapting aspects of the organizational structure. Organizational structure involves "the ways in which the members of organizations are related, respectively, in terms of job responsibilities, influence, and financial incentives, or combinations of them" (Katzell & Yankelovich, 1975, p. 6). Aspects of organizational structure that organizations may choose to adapt to workers (usually in order to affect job satisfaction and, hence, worker productivity) include: management policies and practices, organizational communications, plant and workflow design and technology, worker-organizational relationships in terms of the organizational structure and identity, and—mentioned previously—application and distribution policies for rewards.

In most traditional organizations, management—the people at the top—hold most of the power and wield most of the control regarding worker-work relationships. The sharing of this power, mentioned above in the specific context of work groups, is a strategy being used, in various ways, by some innovative work organizations. Blake and Mouton (1979) list the following principles that characterize the "OD" (organizational development) movement, a current philosophy for more sound management that is being used in some innovative work organizations:

> 1. Fulfillment through contribution is the key motivation that gives character to human interaction and supports productivity.
> 2. Being responsible for one's own actions is the highest level of maturity and only possible through widespread delegation of power and authority.
> 3. Open communication is essential for the exercise of self-responsibility.
> 4. Shared participation in problem-solving and decision-making stimulates active involvement in productivity and creative thinking.
> 5. Conflicts are solved by direct problem-solving confrontation with understanding and agreement the basis of cooperative effort.
> 6. Management is by objectives.
> 7. Merit is the basis of reward.
> 8. Learning from work experience is through critique.
> 9. Norms and standards that regulate behavior and performance support personal and organizational excellence. (pp. 26-28)

Management by objectives (MBO) is one of the most common of these innovative organization adaptive strategies, and is defined as:

> a form of participation in which a worker and his [sic] supervisor collaborate periodically in setting objectives to be attained in his work, in evaluating his attainment of objectives previously set, and in considering what can be done to assist his goal attainment. The method has typically been employed with managerial rather than rank-and-file employees. (Katzell & Yankelovich, 1975, p. 415)

In addition to restructuring the distribution of control in an organization, MBO "can in theory affect other dynamics of performance, including: clarification of goals, better planning, and more frequent and complete feedback on performance" (Ibid., p. 210).

MBO is certainly not the only managerial strategy of this type. Redistribution of some authority, as in increasing the autonomy and decision-making responsibility of work groups (mentioned above) or establishing more cooperative patterns of labor-management interaction, may also be used (Ibid.; Schrank, 1978). In essence, work organizations may adapt themselves more effectively to the needs and desires of workers by *consulting with the workers themselves* through some technique or agents in order to reach more reliable management and other worker-related decisions, rather than relying, as is so often done, on demographic statistics or guesswork.

The need for improved communications between management and workers, work groups, unions, and so forth, becomes obvious as one examines work organization efforts at adaptation. Giving advance notice to unions or workers of forthcoming major organizational changes is an important strategy of this type (Levine, 1969). Also, there is a need to make expectations for worker performance clear and nonconflicting (Keller, 1975), for which communication strategies may or may not be developed. Bass and Ryterband (1973) emphasize the need for more effective communications strategies within organizations of the future:

> As organizations become more specialized, more complex, and larger in size, and as the number of resident specialists and the use of highly technical language increase, organizations will need faster, more effective methods for handling larger amounts of complex lateral and vertical communication. Sophisticated communications systems of the future will include the wider use of cable television, specialized closed-circuit transmitter, and teleconferences. (p. 137)

Changes in technology, such as increasing automation, present important adaptive challenges for work organizations regarding their workers. Meissner (1971) claims that for organizations to prevent counterproductive outcomes from such changes in technology, it is necessary to change the technical make-up of the plant that imposes necessary constraints on behavior, rather than trying to adapt workers to existing circumstances that allow little choice. There is also the need for organizations undergoing technological change to make adaptations in their worker training policies and practices. Efforts at changing the technical make-up of plants, or designing new plants so that they are more adaptive to job enrichment and participation of workers, are strategies used by a number of work organizations (Argyris, 1973; O'Toole, 1972; Volvo, 1972; Walton, 1972). Such strategies often include other adaptive techniques such as job enlargement, job rotation, employee-centered leadership, and employee participation in the plant community (Miller & Form, 1964).

Actual redesign of organizational structure is a radical, but possible and potentially productive, adaptation of the organization to workers. Work organizations' structures differ along the following dimensions: size, "shape" (verticality and horizontality—or, in some notions, pyramidal versus organic shape), centrality, authority structure, activities structure, and control structure (Porter et al., 1975). Porter et al. examined literature on the effects of organizational structure regarding benefits to the organization in relationship to needs and abilities of workers, and came to the following conclusions:

> Organic, low-structured, nonbureaucratic-type designs are most effective when:
> - Individuals have relatively high skills, widely distributed.
> - Individuals have high self-esteem and strong needs for achievement, autonomy, and self-realization.
> - The technology is rapidly changing, nonroutine, and involves many nonprogrammable tasks.
> - The environment is relatively dynamic and complex.
>
> Mechanistic, high-structured, more bureaucratic-like designs are most effective when:
> - Individuals are relatively inexperienced and unskilled.
> - Individuals have strong needs for security and stability.
> - The technology is relatively stable and involves standardized materials and programmable tasks.
> - The environment is fairly calm and relatively simple. (p. 272)

Of course, most work organizations exist in a variable environment and employ workers of variable abilities, needs, and other characteristics, and efforts in organizational structure redesign probably embody elements of both of the above ends of the structural continuum. Janson (1979) outlines some notions for changing the structure of work organizations (his particular emphasis is on job enrichment), suggesting that "we must look at the workflow and layout, the job design, organization structure, and the mission and management style" (p. 58) in order to begin to plan strategies for action.

The importance and some of the strategies for the administration of rewards have been mentioned previously as ways by which work organizations seek to adapt workers to organizational purposes, but making changes in extant reward systems requires an organization to adapt itself as well. Porter (1973) mentions several requirements for innovative restructuring of reward administration, including: (a) specification of performance objectives (also mentioned by Katzell & Yankelovich, 1975), (b) specification of methods of measurement of performance, and (c) methods to insure an opportunity for receipt of rewards (p. 13). Aside from the distribution of rewards, penalties, benefits, etc., another "reward"-type, useful for increasing worker involvement in the organization but requiring restructuring of portions of the organization itself, is profit-sharing. O'Toole (1972) claims that "characteristically, profit-sharing companies do about a 25% better job of enlarging their markets and creating jobs than do less efficient non-profit-sharing companies" (p. 89).

Organizations Adapt via Mobility

Organizational mobility is such a radical form of adaptation that it usually occurs only when internal and/or external conditions are unusually favorable (as in the case of organizational mobility by expansion—creating new jobs, building new plants, merging with another work organization, and the like) or unusually detrimental (as in the case of organizational mobility by closing plants, eliminating jobs, laying off portions of the labor pool, or—in extremis—moving the plant to a new locale or shutting it down completely). Dubin (1973) predicts that "work organizations will have greater geographic mobility in the future" (p. 62)—which, if true, could create new opportunities as well as new adaptive problems for work organizations and workers alike.

Summary of Organizational Adaptive Strategies and Behaviors

Organizations respond to labor-related pressure for change by seeking ways to adapt workers to the organization, to adapt aspects of the organization to the workers, or to change the situation via mobility. A number of related strategies have been reviewed, including hiring and socialization processes for workers, increasing worker and work group participation and responsibility in decision-making, redesigning of jobs and plants, improving management, restructuring the organization itself, fitting rewards or "reinforcers" to individuals, and building or closing plants.*

Problems arise from many sources when organizations respond adaptively. For instance, organizations' efforts to increase job satisfaction through changes in rewards systems, job design, and worker participation may run into difficulties, such as: legal regulations that prevent certain jobs from being redesigned (Argyris, 1964); technological and process limitations of job redesign (Copa, 1974); and resistance by workers to job redesign and increased participation because "it forces workers to assume much greater responsibility than they are often willing to assume" (Triandis, 1973, p. 49). Also, because the average American worker appears to seek many things simultaneously from each job, there may be no *one* way to increase job satisfaction (U.S. Department of Labor, 1974).

Of course, work organizations are not always motivated to adapt. Companies are run by people, and the people making organizational decisions are as likely to perceive pressures to adapt as a threat as they are to perceive them as a challenge. Also, adaptation can be costly, at least in the short run, and no strategy has a guaranteed outcome. However, as Hackman and Suttle (1977) point out, "solving organizational problems does . . . contribute to the individual's and the organization's capacity to deal with similar problems in the future" (p. 381). And, Culbert adds,

> Organizations frequently are blocked from renewing their public relevance by a reluctance to address internal conflicts surfaced at times of external demands for change. Coping with internal conflicts not only may free the organization to respond externally, but provides those within the organization an opportunity to learn substantively about issues which are present in their organizations' interface with the public. (1969, p. 3)

The concern of this paper is with the adaptive capacities of individuals in work, and not specifically with organizational adaptations. However, most individuals are employed within organizations (as opposed to entrepreneurs), and an understanding of organizational adaptive philosophies and strategies may be vital in people's job-hunting, job-adapting, and job-leaving decisions.

Summary of Behaviors and Styles Used in Adapting

As we have seen, behavior seems to be the primary method by which adaptation occurs, and always involves, on some level, a transaction between person and environment. Situations calling for adaptation frequently make multiple demands on the person, and people tend to behave within discernible patterns when dealing with them. Typical patterns emerge from the literature, and may be categorized as styles.

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* A unique adaptive strategy used by the military is to "hire" a new crop of workers every few years, train them intensively, adapt them to the organization's immediate needs, and in most cases, discharge them when their tour of duty—amounting to a strict contract—is completed. Because the funding for these massive efforts is not generated by the efforts of the "work force" itself, the financial considerations of this adaptive technique are not akin to those of profit-making work organizations, and are probably not duplicable.

People adapt both as individuals and as groups. This is shown in the general literature on adaptation (perspectives of biological, psychological, and sociological sciences) as well as in work-related literature. The major adaptive styles appear to be:

1. Reactive — adapting yourself to the environment.
2. Active — adapting the environment to yourself.
3. Mobile — adapting by changing the site of the environment.

Of course, most people use a mixture of behaviors from among the styles, and styles are used to describe general personal tendencies rather than rigid behavioral patterns.

Which adaptive style is used in a given situation depends on the adaptive repertoire (behaviors used successfully before, or capacity to try innovative behaviors) and on how the person perceives the adaptive stimuli. Where the maintenance and protection of personal self-esteem or personal (or group-consensus) perceptions of reality are at stake, the usual response is Reactive. Reactive responses (in the form of learning) are also typically used where the person perceives a need to improve his or her ability to interact with the environment or the subjective self. Active behaviors are used when the person perceives the environment to be modifiable, and when he or she feels able and safe in doing so. Mobile responses seem to occur mostly when the current situation is perceived as oppressive and beyond the individual's (or group's) capacity or willingness to modify it.

In work, the Reactive style appears to be that most frequently used by individuals (Argyris, 1973; Scott, 1966), although statistics on occupational mobility (Byrne, 1975; The College Board, 1978) seem to indicate that Mobile behavior is a significant adaptive alternative for many. Active behaviors tend to be group behaviors more often than individual behaviors, probably because collective actions are more potent in influencing the work environment. Most individuals may expect to use—or wish to use—behaviors within each of the adaptive styles at certain points in their work lives.

The achievement of an effective adaptation depends not only on the behaviors or behavioral style used by the individual or group, but on the adaptive Quality of the behavior—that is, its efficacy and consequences. The Quality of an adaptive response seems to be situationally dependent; that is, an adaptive behavior may be appropriate in one situation and not appropriate in another, or it may be available and effective for one person or group and not for another.

Work organizations, too, have adaptive needs in relation to the workers they employ. These needs may be satisfied by adapting the workers to the work environment, adapting the organization to the workers (usually done in hopes of increasing productivity and job satisfaction), or making a mobile response. Organizations tend to make use of the various strategies in the normal conducting of hiring, training, managing, decision-making, compensation, promotion, transfer, firing, layoff, and other necessary practices. The importance here of organizational adaptive behaviors is that inasmuch as workers or work groups (potential or extant) can discern them, general tendencies of a work organization to use certain adaptive strategies or styles over others may reflect the basic organizational philosophy. This may present important opportunities or restrictions in the adaptive behavioral choices made by workers.

In the following section, the concepts that have emerged from this review of the literature on adaptation will be combined with the author's ideas (as well as those of other members of the Transferable Skills and Occupational Adaptability Program) to construct a tentative model of individual occupational adaptation.

CHAPTER V.

OCCUPATIONAL ADAPTATION: A DESCRIPTIVE MODEL

In discussing the occupational adaptability of a person (or group), essentially the same concepts come to the fore as those examined by behavioral scientists studying other adaptive contexts from various perspectives: person-environment factor categories, perception of incongruencies or of opportunities to improve congruity, behavioral responses, styles of behaviors, efficacy and resultant feedback, continuing adaptation over time, and so forth. The context of interest here is, of course, the work world, but an understanding of a person's occupational adaptation requires that work be viewed as merely one area (albeit a central one here) of the person's adaptations in his or her entire life. It is from this perspective that the descriptive model of occupational adaptation is constructed.

The model represents a selective condensation and extrapolation from the volume of literature, both work-related and general, that is reviewed in Chapters II-IV.* The working model is a systematic but informal expression of concepts intended to aid further understanding of occupational adaptation. In that sense, its utility for prediction is uncertain. Nor is the model complete: "Confusion over forms of coping behavior, lack of knowledge about their interrelationships, and the conditions that bring them about, and the inadequacy with which our formal language of coping describes how humans ... cope remain central handicaps for a behavioral language of coping" (Lazarus et al., 1974, p. 259). In other words, there is probably more that is *not* known about adaptation—in any context—than what *is* known, at least at this time. The model offered here is an attempt to give structure to the known by integrating the broad scattering of relevant research and theory, and it may serve to illuminate deficiencies in knowledge requiring future investigation.

Modeling Adaptation and Adaptability in Work

Any attempt to understand the adaptability of individuals or groups of individuals is based on several assumptions:

1. that adaptability is distinguishable as a set of behavioral competencies;
2. that people differ in the array and quality of their adaptive competencies; and,
3. that an individual's adaptive potential does not guarantee a maximally adaptive response, but rather may vary between given situations or over points in time.

This last assumption questions whether an individual can be adaptable in all situations or make use of his or her adaptive potential at all times. The influence of situational factors on behavior may be so potent that in many instances, the significance of personal attributes may be considerably reduced (see Mischel, 1968, for research on situational impact on behavior).

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* In addition, ideas and suggestions of members of the Transferable Skills and Occupational Adaptability Program, its Advisory Panel, its NIE monitor, and other consultants have been incorporated where helpful.

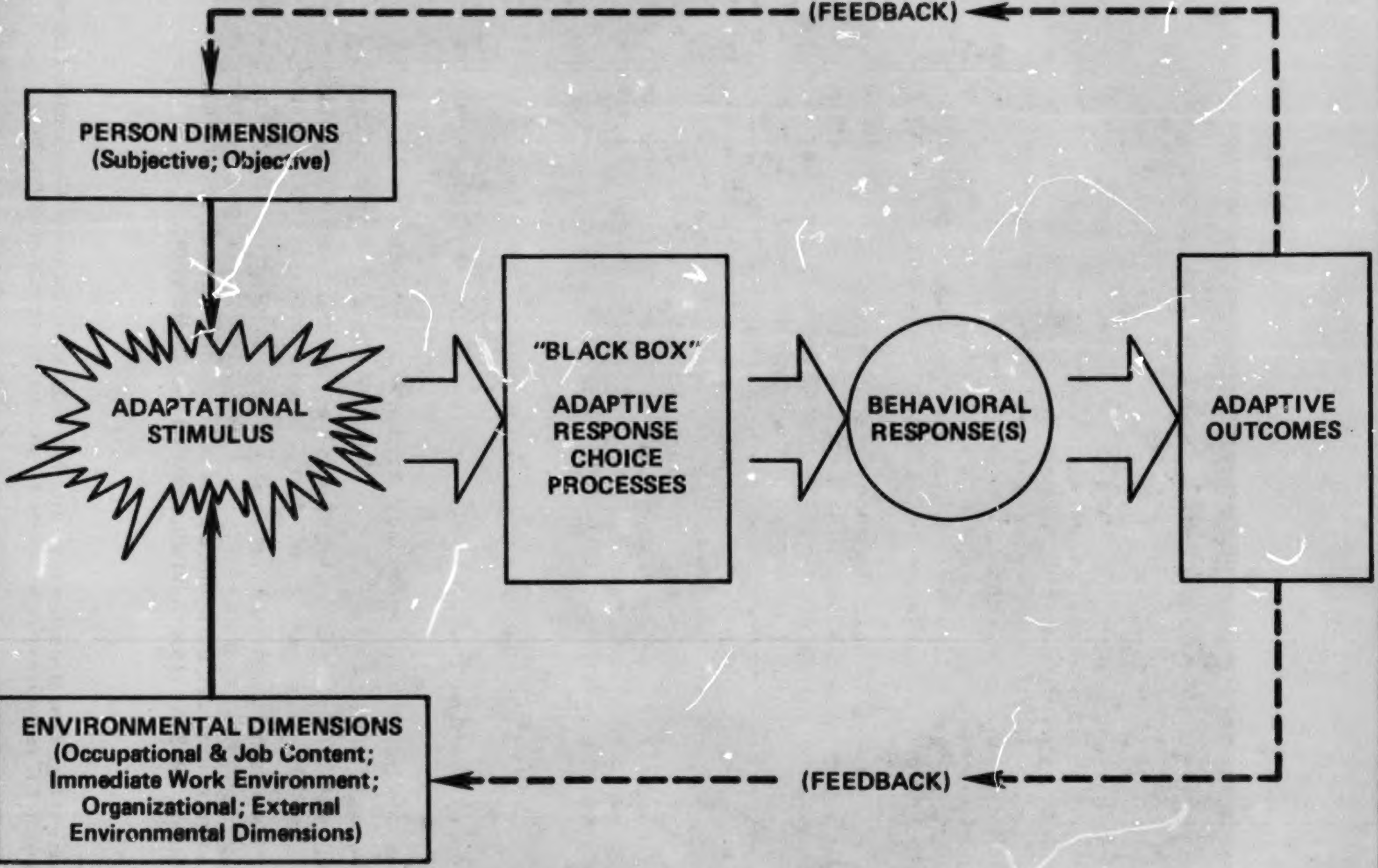

FIGURE 6. Outline of model of occupational adaptation.

It is appropriate, in light of the above, to revise the paper's earlier definition (p. 8) of occupational adaptability. Rather, *occupational adaptability may be thought of as an individual's capacity to deal effectively with change-related phenomena affecting his or her transactions with the work environment* (where *effectiveness* involves at least minimal preservation or growth of the individual in terms of the individual's own criteria, and where *change-related phenomena* are actual or potential incongruencies or possibilities of improving extant congruency, as viewed by the individual in the situation). Very broadly, then, occupational adaptation involves *what* an individual can do (adaptive repertoire and environmental and/or personal autonomy), *how well* he or she can do it (proficiency and efficacy), and *under what conditions* he or she can do it well.

It should be noted that adaptability "is a dynamic aspect of human development" (Miguel, 1977, p. 23). Adapting is not a one-shot-at-one-point activity, nor is it a problem-solving task, *per se;* it is a longitudinal *process* that is continually feeding back to itself, involving sustention of adaptive behaviors over long periods of time, periodic reevaluation, and possible modification of behaviors. What an individual might perceive as an effective adaptive outcome in the short run (e.g., "sticking it out" in an aggravating but well-paying job) may not turn out to be as effective in the long run (e.g., developing ulcers), and one set of adaptive efforts (e.g., finding a better job) may require subsequent additional adaptive efforts (e.g., learning new skills and procedures). In effect, people are constantly adding to their adaptive repertoire, whether they are conscious of it or not.

Beyond simple survival in the work context (however an individual may define survival for his or her own purposes), a person's adaptability seems to serve common human functions: (a) maintaining, repairing, or expanding one's self-concept and self-esteem; (b) stabilizing an "acceptable" perception of "reality"; and, (c) stimulating and directing necessary interactions with the environment to assure survival, self-concept, self-esteem, and an acceptable reality. Of course, it should be noted that what kinds of person-environment transactions are deemed "necessary" are individual judgments, and it is here that aspects of people's personalities may affect "minimal" versus "maximal" adaptive efforts.

We may think of occupational *adaptability,* then, as an individual's *adaptive potential,* while *occupational adaptation is a process.* Understanding an individual's adaptive potential in work requires a descriptive model of the adaptive process. The model presented here primarily addresses the issue of adaptive processes, because adaptability is such an individualistic thing—that is, not everyone is (nor can become) equally adaptive, nor adaptive in the same ways—but it seems likely that most people use similar overall *processes* in producing their adaptive responses.

How, then, do people go about adapting in work? What are the stimuli, the factors, the processes involved in producing adaptive responses, the range of possible responses, their outcomes? Figure 6 displays a basic outline of the dynamics of adaptation in diagrammatic form. Essentially, person and environment factors, which are continually interacting with each other in a dynamic manner, are in an actual or potential state of change. If this stimulus (actual change, threat of change, opportunity for desirable change) is strong enough, it evokes a state of awareness (not necessarily a cognitive—or even conscious—one) and an adaptive arousal on the part of the individual in the situation. What is here called a "black box"—the process of selecting among the behavioral responses available to that person and practicable in the given circumstances—is a highly individualized problem-solving and decision-making activity that may occur on a completely automatic, unconscious level as well as on a highly deliberative, cognitive level—or anywhere between. The resulting behavioral response(s) are expected to be strongly related to the person's typical pattern or history of behaviors, which may be thought of as his or her adaptive style. It should be noted that most people's adaptive repertoire will contain behaviors from each of the style categories; however, except in the case of persons whose adaptive behavioral pattern is unusually flexible, individuals' personal adaptive behaviors are expected to cluster mainly in one of the three styles (see Chapter IV).

Within an adaptive style, the particular behavior(s) chosen may vary in Quality, being typically more or less efficacious. For example, an Active work-related behavior that is an expression of Turning against Others (see p. 81), such as stealing on the job, may be expected in most circumstances to work against long-term adaptation; that is, it expresses the person's anxiety and hostility over a state of incongruity in the work environment and as such may provide a degree of temporary gratification, but it does not resolve or act on the source of the incongruity, and may, in fact, aggravate it in the long run. (This is sometimes called the "Get the bastards" strategy, and it has a tendency to escalate.) In other cases, the efficacy of a behavioral response may be positive in some situations, but not in others. In effect, such behaviors may be thought of as intrinsically neutral (such as "talking to coworkers about work-related problems"), and their Quality may depend almost entirely on the circumstances in which they are used (e.g., in the case of "talking to coworkers," the behavior may be efficacious if the coworkers are sympathetic to the problem and/or can help the person solve it; the behavior may *not* be efficacious, however, if the coworkers are not sympathetic.)

Adaptive responses may produce a number of outcomes, both short-term and long-term. Their degrees of success are, in most cases, judged by the individual, based on his or her own implicit goals upon which the adaptive responses were initially based. Short-term outcomes, which are usually more readily recognized by the individual, are probably evaluated according to their immediate or timely effects on reestablishing or improving the state of person-environment congruity, or eliminating the threat of incongruity that stimulated the behavioral response(s) in the first place. This individual judgment of the adaptation's usefulness then functions as feedback, and may result in the person's terminating the adaptive response(s) (e.g., "all is well, I can turn my attention to other tasks now"), modifying them, continuing them, or, if deemed appropriate, initiating new ones. Long-term outcomes are less visible and usually less readily evaluated by individuals, in that a particular set of adaptive responses usually affect not only adaptation in a critical episode but the person's adaptation in a longitudinal, whole-life sense. Behavioral responses that may be efficacious in the short run may prove ineffectual or even harmful to the whole person or to the groups or society in which he or she exists in the long run (see pp. 82-84, Chapter IV).

The sections that follow present more detailed explanations of the model outlined in Figure 6.

Stimuli of Adaptation in Work

Any perceived incongruity, threat of incongruity, or opportunity to improve extant congruity in a person-environment interrelationship is a potential stimulus to adaptive response(s) by the individual or group of individuals in the situation, as represented in Figure 7. *Most stimuli for adaptation involve some kind of change,* such as:

1. The need to establish a state of relative congruency in a new situation. In work, this may be making the change from school to work, fitting into a new job, changing careers, and so forth.
2. The need to deal with a change or threat of change in the state of relative congruency in an extant situation. In work, this may involve dealing with a change in one's job tasks or ways of performing them, a change in work groups or supervisors, in company policies or practices that affect one's work, and so forth. Alternatively (and sometimes simultaneously), it may involve personal changes, such as increased family responsibilities, the acquisition of new knowledge or abilities, changes in self-concept or self-esteem, new

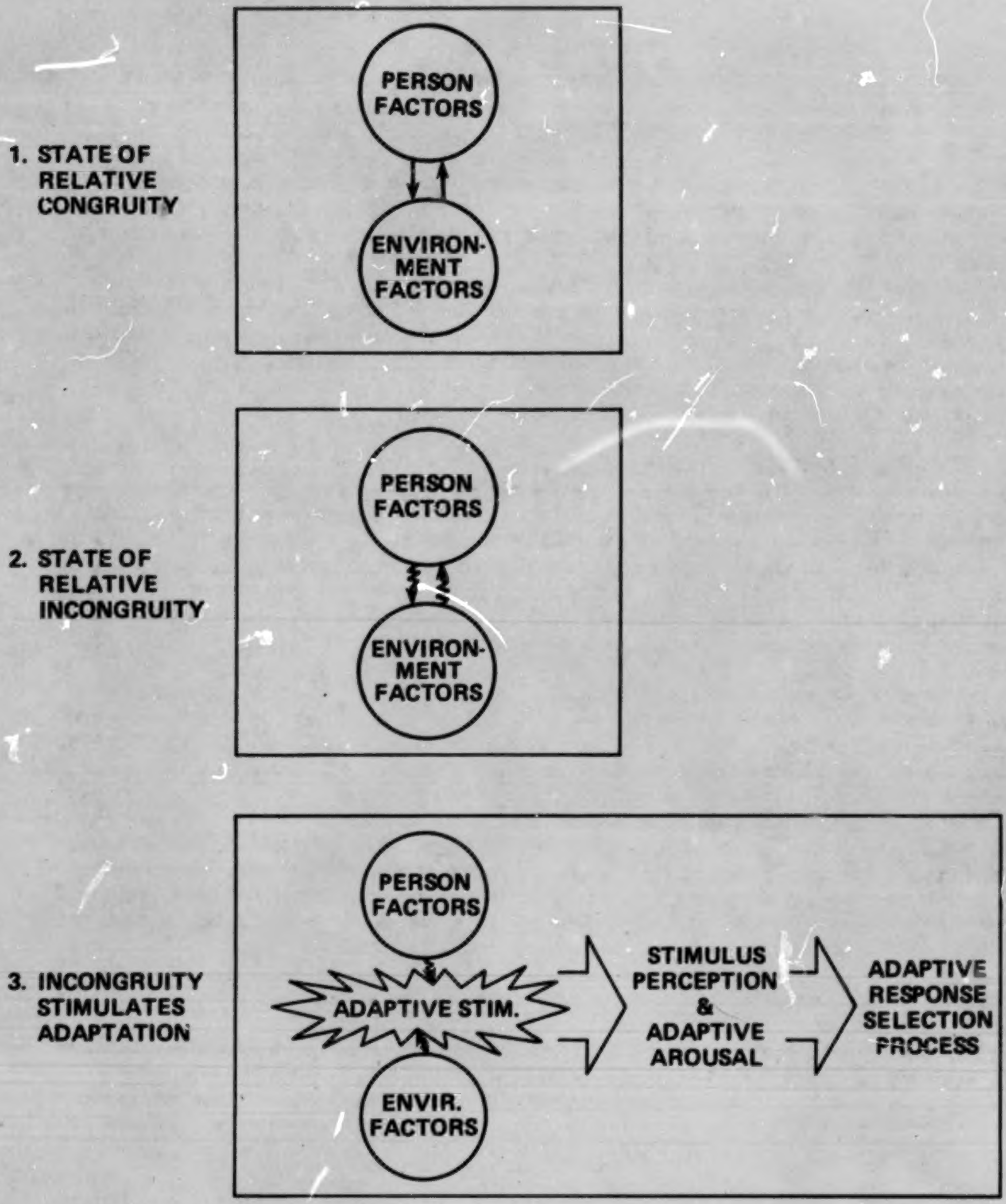
1. STATE OF RELATIVE CONGRUITY
PERSON FACTORS
ENVIRON-MENT FACTORS
2. STATE OF RELATIVE INCONGRUITY
PERSON FACTORS
ENVIRON-MENT FACTORS
3. INCONGRUITY STIMULATES ADAPTATION
PERSON FACTORS
ADAPTIVE STIM.
ENVIR. FACTORS
STIMULUS PERCEPTION & ADAPTIVE AROUSAL
ADAPTIVE RESPONSE SELECTION PROCESS

FIGURE 7. Person-environment incongruity as a stimulus of adaptation.

notions about reality, new personal goals, and the like, all of which can affect the individual's perceptions of his or her work life.

3. The individual's perception of an opportunity to generate a change in the level of relative person-environment congruency, so that its quality—which was tolerable—might be improved. In work, this may be seeking and/or accepting an offer for a transfer, promotion, or new job or career. It may include rearranging work tasks or work schedules to improve efficiency, convenience, or enjoyment, or may involve acquiring new skills or new friends in the work place, and so on. It might also involve seeking a better integration of the person's work life with his or her life as a whole.*

Change may occur on a relatively small scale, such as a change in a task-related procedure in one's job, or it may occur on a large scale, such as a change in technology that makes one's job obsolete. Change may occur within the person rather than in the work-related environment. Some changes, such as developmental changes or transitions (e.g., changing lifestyles, aging, evolutions in the work organization), are usually gradual and often do not present dramatic—or consciously noticeable—stimuli to adaptation, yet people do generally manage to adapt in them.

Not all adaptational stimuli involve change as it is generally conceived. Some adaptive situations require that environmental or personal stability and continuity be maintained, a function that may require greater adaptive effort than dealing with imposed external change (an example might be maintaining stability in an informal work group under stressful conditions imposed by inequities in wage raises). Other adaptive responses may be stimulated by environmental complexities—a case of "too much to handle" that is not change as it is usually thought of. Finally, some adaptive responses might be stimulated by the need to establish a congruency where one did not previously exist, such as learning the ropes of the work world upon entering one's first job.

In summary, *a change, a threat of change, or a desire for change may act as a stimulus to individual and/or group adaptive responses.* Change may be generated internally or externally, and may vary in its importance as well as its perceptibility to the individual or group involved. Transitions in work life, such as seeking a new job or career, entering and getting established in a first or new job, transferring or moving up in a work organization or on a career ladder, or reentering the work world after a time away are all examples of readily visible, dramatic adaptive stimuli. Less dramatic changes might include gradual changes in workers' values or in organizational philosophies and policies that affect aspects of the work environment in barely noticeable increments. Changes within workers' lives outside the work world may also stimulate adaptive responses that affect or involve work. Factors and transactions that stimulate the adaptive process may act as means to adaptation as well.

Factors and Interactions in the Adaptive Process

The transactions and interrelationships of factors in the person and environmental dimensions affect adaptation at every phase of the process. Their roles as stimuli of adaptive responses have been discussed above, but they are also intimately involved in the person's choice of adaptive responses, in the implementation of adaptive behaviors, in the outcomes of those behaviors, and, as they are or are not affected by the adaptive efforts, in feedback and subsequent continuation, revision, or termination of adaptive efforts.

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* These are expressions of Bronfenbrenner's (1977) notion of the ecological *mesosystem* of human development, where "a mesosystem comprises the interrelationships among major settings containing the . . . person at a particular point in his or her life" (p. 515). Bronfenbrenner's contention is that an understanding of human development (and, in our focus, human adaptation) cannot be limited to a single context ("microsystem"), but "must take into account aspects of the environment beyond the immediate situation containing the subject" (Ibid., p. 514).

The three general dimensions of factors derived from the literature in the preceding chapters fall into categories of (a) person factors, (b) work environment factors, and (c) external environmental factors (see Figure 1, p. 56). While these categories and their content describe the basic micro-, meso-, and macrosystems (Bronfenbrenner, 1977) affecting an adaptive situation, in order to understand the adaptive *process* it is necessary to consider behaviors (adaptive responses) as factors, as well. As Ruh and White (1974) have suggested, researchers should not

> . . . exclusively look to either individual differences or organizational and job characteristics as *the* primary determinants of employee responses [i.e., adaptive responses] to the job. . . . A more fruitful approach would emphasize interactions between individual differences and organizational and job characteristics. (p. 1)

The interactions that Ruh and White are concerned about are probably most readily identified and understood by examining the adaptive behaviors elicited by those interactions. This is similar to Lazarus et al.'s (1974) use of a sources-of-variance model using persons, situations (i.e., work and external environment factors, in this case), and *responses* to study coping. However, while behaviors are important variables in adaptation, the discussion here will focus on person and environment factors; adaptive behaviors and styles will be examined later.

The person factors in the adaptive process interact to have a positive, neutral, or negative effect on the situation, and each interacts in some way with the other potent factors (though not all factors will have a significant effect in every situation). For example, a layoff from work will probably involve factors in the external environment acting on aspects of the work organization's financial stability, which in turn affects upper echelon decisions about production and thus managerial practices and policies, which invoke decisions and choices about whom to lay off, which depend on which workers are or are not expendable or can be let go with the fewest negative repercussions, which probably depend on the individuals' work-related attitudes and abilities as well as their costliness to the work organization, as well as other factors. For the worker in the situation, adaptive response choice will be affected by the availability of other work, his or her attitudes related to work, his or her accustomed level of compensation and working conditions, alliances and reputation with the old firm, personal lifestyle and life responsibilities and commitments, personal financial resources, personal adaptive potential (both life and occupational), self-esteem, status, and so forth.

Each factor that is an active element in an adaptive situation may present itself as a locus of *opportunity or restriction* in adaptation. Which role it assumes depends on its *importance and relationship to other factors in the situation,* and the judgment of *its relative adaptive value is entirely dependent on the perceptions of the person in the situation.* In this sense, the model departs from Lofquist and Dawis' (1969) notion of what amounts to an "average expectable personality."

It should be noted that it is the transactions between factors on which individuals' perceptions of their roles are, at least in part, based, and these interactions are frequently complex, elusive, and highly subjective. Therefore, a simple checklist of factors giving relative weightings of importance is not sufficient for an understanding of the roles of any particular factor(s). Some factors, however, do seem to be of significance in most adaptive processes, regardless of the person or the situation, and these are what effectively describe the factors of *adaptability*—adaptive potential in general terms.

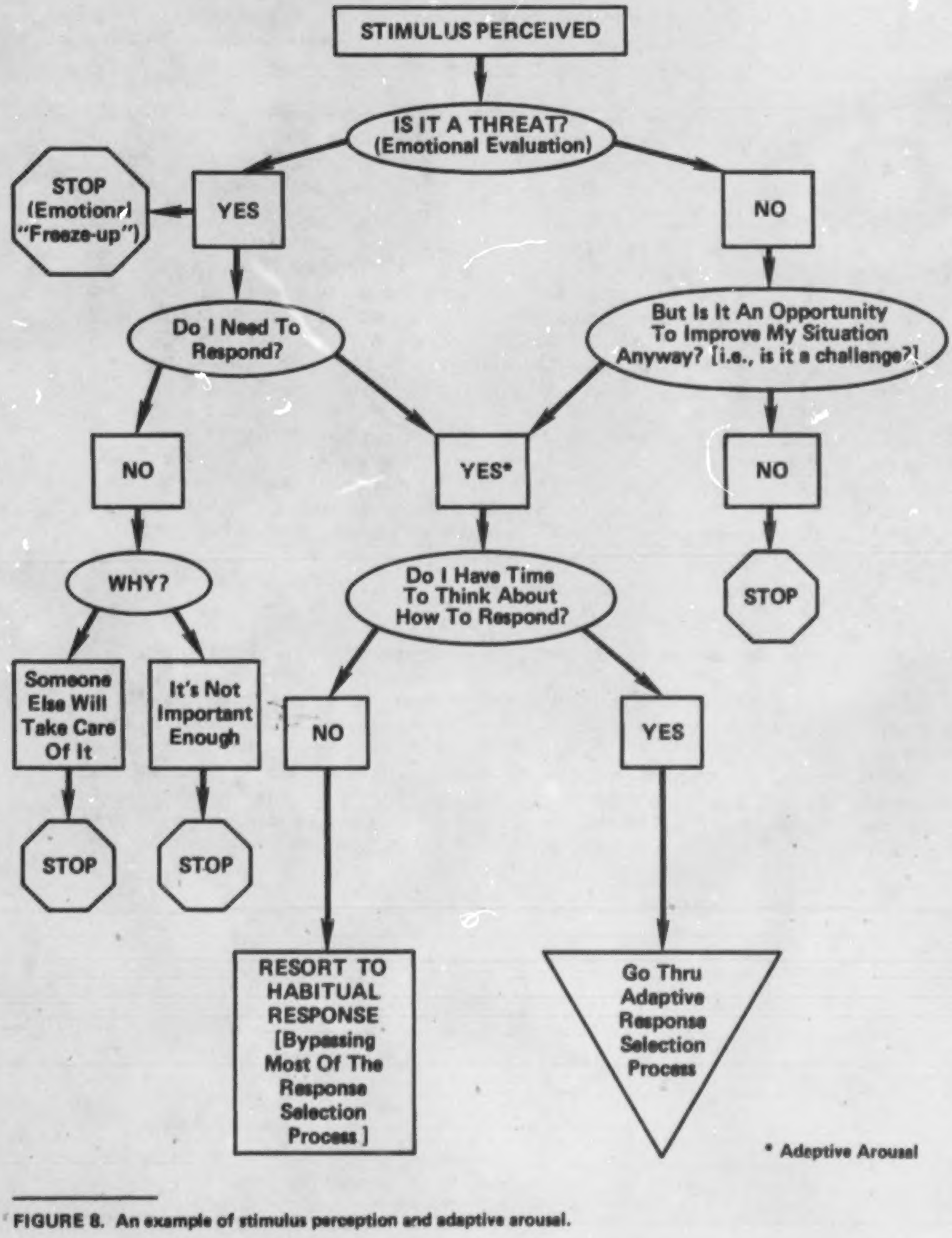
The adaptive potential of an individual seems to include certain subjective as well as objective factors. In regard to occupational adaptation, the literature (reviewed on pp. 55-62) indicates that the *potent person factors* include: (a) the person's attitudes toward work in general and toward the particular work situation as it affects his or her life; (b) the person's state of internal stability, that is, self-esteem, self-concept, goals, fixity of purpose, and so forth; (c) the person's degree of work-related and personal autonomy or freedom of action; (d) the person's repertoire of generic as well as specific skills, his or her "motivated skills" and their relative general transferability; (e) the person's cognitive style and cognitive flexibility; and (f) the person's repertoire of adaptive competencies.

Probably the most *potent external factors* (see the literature review, pp. 63-66) in an individual's adaptability exist within occupational dimensions, in the immediate work environment, in the work organization, or in the general external context, and are the institutionalized adaptive strategies created and maintained in those areas through collective action. Examples are "old buddy" or "old gal" contact systems (usually in professions or in work organizations) that facilitate occupational mobility; or negotiations for changes in work-related factors between labor groups (usually unions) and management; or organizational policies on such things as transfers, grievances, promotions, flextime, participation, etc.; or educational and accrediting institutions, occupational information systems, etc. Another vital external factor is the *time* available for the person to generate adaptive responses.

The "Black Box" –
Processes of Selecting Adaptive Responses

Because processes of selecting adaptive responses appear to be highly individualistic, we have included the activities that seem to be part of various selection processes in a "black box." What usually happens within an adaptive black box is that the person perceives an incongruity (or threat of incongruity, etc.) between him- or herself and the environment, evaluates (reacts to) the situation on an emotional level, undertakes some sort of personal decision-making activity in which he or she decides whether and how to respond behaviorally to the incongruity, and presumably does or does not initiate a response (behavior) based on the decision.

Much of this decision making takes place on a subjective (even unconscious) level. The very perception of an adaptive stimulus seems to trigger an automatic emotional evaluation. Plutchik (1980), in his book *Emotion: A Psychoevolutionary Synthesis*, defines emotions as complex sequences of events having elements of cognitive appraisal, feeling, impulses (i.e., motivations) to action, and overt behavior—all of which are designed by human evolution to deal with the stimulus that triggered the chain in the first place. The person in the situation reacts emotionally first; whatever decision making for behavioral response that follows (or does not follow, i.e., the person's emotions "freeze" or suspend his or her ability to respond further, or the person's emotional reaction may not be of sufficient intensity to cause further adaptive activity) depends on how the person evaluates the stimulus situation emotionally—that is, whether as a threat or a challenge. (It should be noted here that people may misinterpret a situation emotionally, e.g., as friendly when it is in fact dangerous or, in contrast, as dangerous when it is in fact innocuous, as illustrated by phobias of various kinds; see Plutchik, 1980.)



STIMULUS PERCEIVED
IS IT A THREAT? (Emotional Evaluation)
YES
NO
STOP (Emotional "Freeze-up")
Do I Need To Respond?
But Is It An Opportunity To Improve My Situation Anyway? [i.e., is it a challenge?]
NO
YES*
NO
WHY?
Do I Have Time To Think About How To Respond?
STOP
Someone Else Will Take Care Of It
It's Not Important Enough
NO
YES
STOP
STOP
RESORT TO HABITUAL RESPONSE [Bypassing Most Of The Response Selection Process]
Go Thru Adaptive Response Selection Process
* Adaptive Arousal

FIGURE 8. An example of stimulus perception and adaptive arousal.

120

The amount of time available for an adaptive response combines with how the person perceives the stimulus to determine whether a primarily intuitive and probably habitual response* will be used (essentially bypassing most of the response selection process) or a more cognitive, deliberative decision-making process will be used to select the adaptive response(s). An example of a possible "inner dialog" involving stimulus perception, emotional reaction and evaluation, probability of adaptive response, and arousal of adaptive decision-making processes is offered in Figure 8. Note, however, that recognizing that one should respond adaptively (i.e., should initiate an adaptive behavioral response, even if the response amounts to "doing nothing," or "waiting") in a situation is not the same as deciding to *do* something about it. As Phillips (1968) points out,

> There is, of course, no way of knowing when a particular situation will be perceived by a person as thwarting to some motive of central significance to him [sic], thus initiating a condition of emotional arousal. People will perceive objectively identical situations in quite different ways according to their unique background of experiences. Accordingly, they will respond to some ostensibly stressful condition as conveying different levels of threat. (p. 89)

When more deliberative modes are used in selecting adaptive responses, certain recognizable activities may be expected to occur (although variances in individuals' adaptive response choice *processes* are related to cognitive styles as well as personality traits; also, time limitations may restrict or even eliminate some activities). Behavioral competencies included in typical adaptive response selection are diagrammed in Figure 9. The basic competencies involved in the more deliberative approaches to adaptive choice processes include:

1. Situational clarification and analysis;
2. Diagnosis and problem-solving activities; and,
3. Selection among options (i.e., decision making). (See Altman, 1976; Penland, 1978).

Situational clarification and analysis follow stimulus perception when the person makes at least a tentative commitment to seeking a behavioral solution to the problem presented by the stimulus (i.e., stimulus arousal). The purpose of situational clarification and analysis is to identify the critical factors and interrelationships impinging on the situation. Altman (1976) calls this part of the selection process the analysis of contextual/response relations, and proposes three perceptual activities that are involved in it: (a) attention—involves selective focus, (b) scanning—active search across the stimulus field, and (c), observational control—orderly movement of elements in the stimulus field to facilitate perception (p. 17). In effect, the person:

1. Analyzes the information he or she has in hand;
2. Identifies what additional information is needed;
3. Collects that additional information if time allows;
4. Decides what information is erroneous or inconsequential;
5. Merges and organizes what's left; and,
6. Develops a mental "model" of the situation and its most pertinent factors and interrelationships.

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* Intuitive, as meant here, refers to habitual and largely automatic one-path response modes, *where little reflection is involved.* It does not refer to decision making in which intuition—in the sense of impressionist, emotional, or other non-logic-based information—is a significant part of the *modus operandi*, nor is any devaluation of such decision making intended.

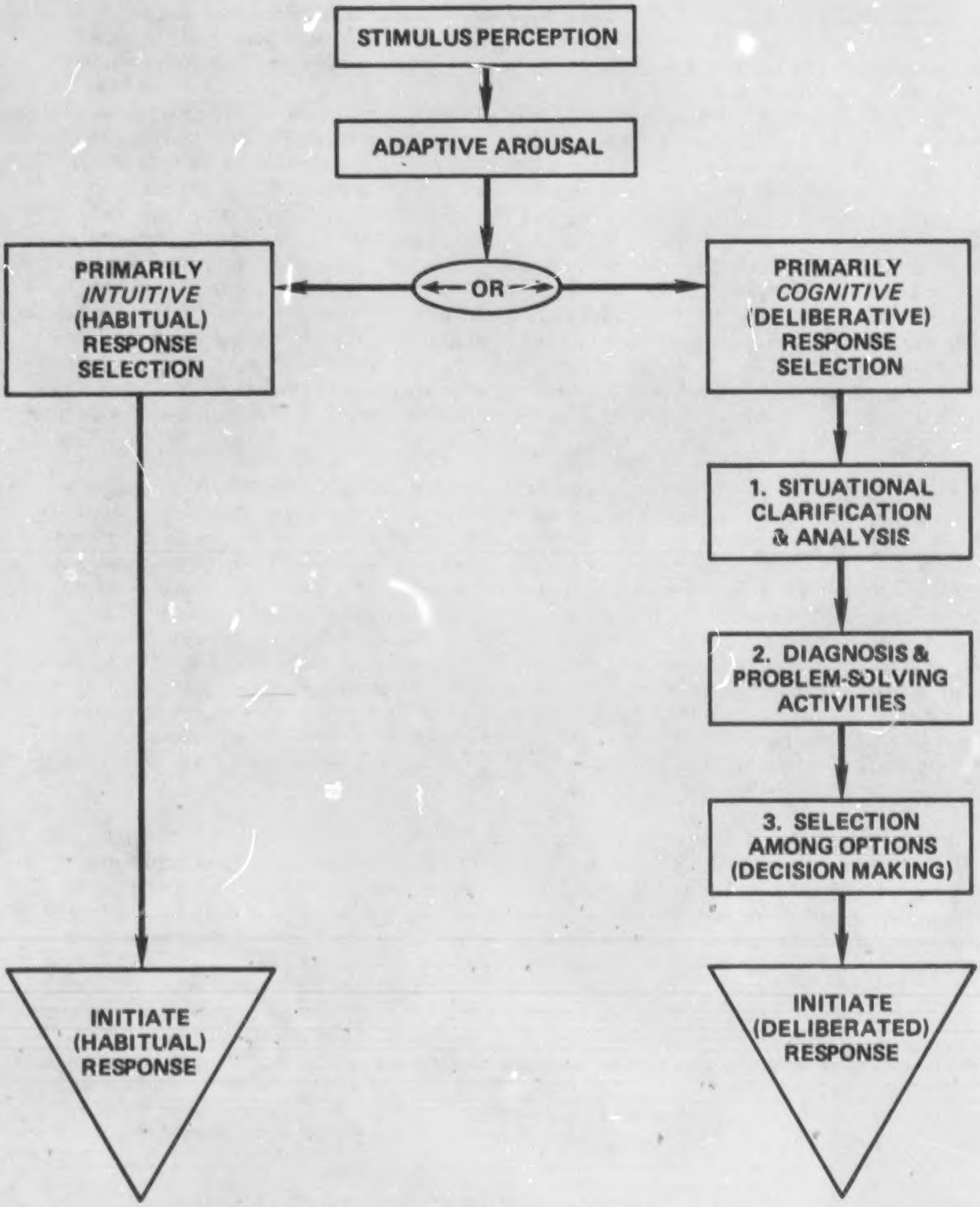
STIMULUS PERCEPTION
ADAPTIVE AROUSAL
OR
PRIMARILY *INTUITIVE* (HABITUAL) RESPONSE SELECTION
PRIMARILY *COGNITIVE* (DELIBERATIVE) RESPONSE SELECTION
1. SITUATIONAL CLARIFICATION & ANALYSIS
2. DIAGNOSIS & PROBLEM-SOLVING ACTIVITIES
3. SELECTION AMONG OPTIONS (DECISION MAKING)
INITIATE (HABITUAL) RESPONSE
INITIATE (DELIBERATED) RESPONSE

FIGURE 9. "Black box": Two possible adaptive response selection procedures.

In clarifying and analyzing a work-related situation, for instance, a person may first review what he or she already knows and feels about the situation, such as what factors seem to be the source of the problem. For example, if Ms. Demeanor has trouble getting her work done on time, and she knows that her reluctance to do certain tasks related to the work is not one of the factors, it might occur to her, with some thought, that other sources of the trouble might be excessive noise in the work area, or too many distractions of a social nature, or personal distractions such as non-work-related anxieties, or unreasonable expectations from supervisors about what amount of work can be produced within a certain time, etc. At that point, she might decide that she needs to determine whether other workers doing similar tasks are having problems getting the work done within the time allotment, too. If there is time to seek that information, she may then talk to those other workers and ask them about their experiences. If she finds out that the other workers are *not* having similar problems, her previous notion that the supervisor might be expecting too much can be eliminated as erroneous. Ms. D might then review what the other possible factors that are left might be, adding any new ones she may have thought of or her coworkers may have suggested, and eliminating those that no longer pertain. Finally, in preparation for the next adaptive phase (that of diagnosing the probable sources of the trouble and generating possible responses to resolve it), Ms. D may analyze the remaining potential contributors to the problem and organize them into a mental picture or model of "how it seems to be happening."

The completion of an effective situational clarification should give an individual a reasonable understanding of the factors and dynamics of the situation, allowing initiation of the next set of activities, *diagnosis and problem solving.* The diagnosis part of the activities involves deciding what factors or factor interrelationships are probable sources of the problem, and which are amenable to possible adaptation (i.e., may act as adaptive opportunities) or may be either impractical or even obstructive to adaptive efforts (i.e., may act as restrictions). Some recent notions about problem solving suggest that persons rely not only on cognitive (i.e., rational) input at this point, but on affective (i.e., intuitive) input as well in order to generate possible solutions—in the form of adaptive responses—to the problem, based on which factors and interrelationships are diagnosed as amenable to adaptation. Ideally, a person's transfer skills and change skills as well as the adaptive attitude that there is usually more than one way of doing things (all aspects of *adaptability*) will come into play here, allowing the person to generate a number of potential behavioral responses rather than focusing too quickly on a habitual solution.

In the example, Ms. D, who was unable to get all of her work done on time, may begin this phase of adaptive response selection by examining her model of "how it seems to be happening," and decide that probable contributors to her problem are too many distractions in her work area and too many personal nonwork worries that are interfering with her concentration. Considering how she may affect the problem of the social distractions, it may occur to her that some of the distractions are really initiated by herself. A possible adaptive response might be to cut down on that behavior. At the same time, some of the distractions are initiated by other people who are friends as well as coworkers, and the interpersonal reactions are not only efficacious to good cooperation on occasional team tasks, but are personally gratifying to her. Ms. D may consider asking her friends not to interrupt her when her office door is closed (if she has one to close), or when she is obviously in the middle of a work task. Thinking about how her nonwork worries affect her concentration, Ms. D might generate several related solutions, including forgetting about the worries as much as possible when at work, or finding ways of doing something positive to eliminate the sources of the worries, etc.

The final activity in making adaptive response selections is *decision making.* This involves reviewing all of the possible solutions generated in the previous set of activities and choosing those that amount to "best bets." A number of matters must be considered in making choices. These may include (a) the means available to the person for implementing the choices, (b) the probability of success of the various choices, (c) the probable costs of using each of the alternative effective means, and (d) the course of action that is most likely to succeed at minimal cost (Janis, 1974, p. 144).* George (1974) warns, however, that "there are cognitive limits on rational choice," including (a) incomplete and possibly erroneous information on which to base choices, (b) inadequacy of knowledge about ends-means relationships for predicting with confidence the consequences of choosing one solution over another, and (c) difficulty in formulating a single criterion of value by which to choose the "best" options (p. 180). Inevitably, "personality dispositions tend to define a range of permissible responses for the individual in a particular situation" (Hamburg, 1974, p. 434)—an important concept supporting the model's notion that people tend to select adaptive responses according to individual adaptive styles.

In terms of our example, Ms. D might now review and consider each of the response options that she generated during the problem-solving activities. This could occur in a highly deliberative, logical manner, or in a quasi-deliberative, "Gestalten" manner, or anywhere between (and may, in fact, not occur at all if Ms. D chooses to ignore or deny the problem). Ideally, she would evaluate each option in terms of whether she knew how to go about implementing it and had the necessary resources (for example, would there be enough time?), how likely it would be to help her get her work done on schedule, how much "hassle" implementing it would entail, and how practical it would be in terms of effort and likely success in comparison to her other response options. For instance, in comparing two of her options—forgetting about her nonwork worries while at her job versus asking her coworkers not to distract her—she may realize that she has more confidence in her ability to ask her coworkers for help than in her ability to put her nonwork troubles out of her mind. On the other hand, asking her friends not to distract her may not affect her time lost on worrying about her other problems, and might, in fact, merely end up giving her more time alone to fret. Still, because she knows how to ask her coworker-friends to cut down on the social interruptions except when "necessary" (assuming, of course, that there is some implicit mutual agreement about what "necessary" means), and it might be necessary for her to seek outside help (e.g., counseling, self-help techniques) to learn to tone down her anxiety about her outside problems, the first option may entail less effort. Comparing the two, Ms. D may conclude that, for her, asking her coworkers for cooperation may be the better (though certainly not a perfect) response to her work problem. Ms. D would then go on to compare this interim choice with the other response options she's generated, and may ultimately settle on one or several as the most practical and suited to her personality. [We might note here that Ms. D's interim choice seems to reflect an Active style—adapting the environment (in this case, her coworkers and the availability of uninterrupted worktime) to her own needs and desires.]

Of course, selecting adaptive responses does not automatically mean that the individual will implement them. A number of factors might block or scuttle the responses before they are ever put to use. For example, if reaching an adaptive response choice entails a self-learning project, the original incongruent situation may rectify itself—or change its nature—in the time expended in reaching the response decision. Another case might be that the adaptive response selected entails considerable effort or complications for the person who chose it, and he or she hesitates or delays in implementing it; this may occur in highly incongruent situations requiring extreme adaptive measures, in which case, quite often, "he who hesitates is lost." A final example is the person who selects an impractical adaptive response out of ignorance or possibly under pressure to "do something," and then finds that he or she is unable to marshall the necessary resources (e.g., support of union or management) and must abort the plan.

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* Vroom's (1964) expectancy-theory model of human motivation, in which a person's expectancies and valences (i.e., affective orientations) combine to determine an individual's motivational force to choose one behavioral option over another, may be applicable here in a predictive sense.

Occupationally Adaptive Behaviors and Styles

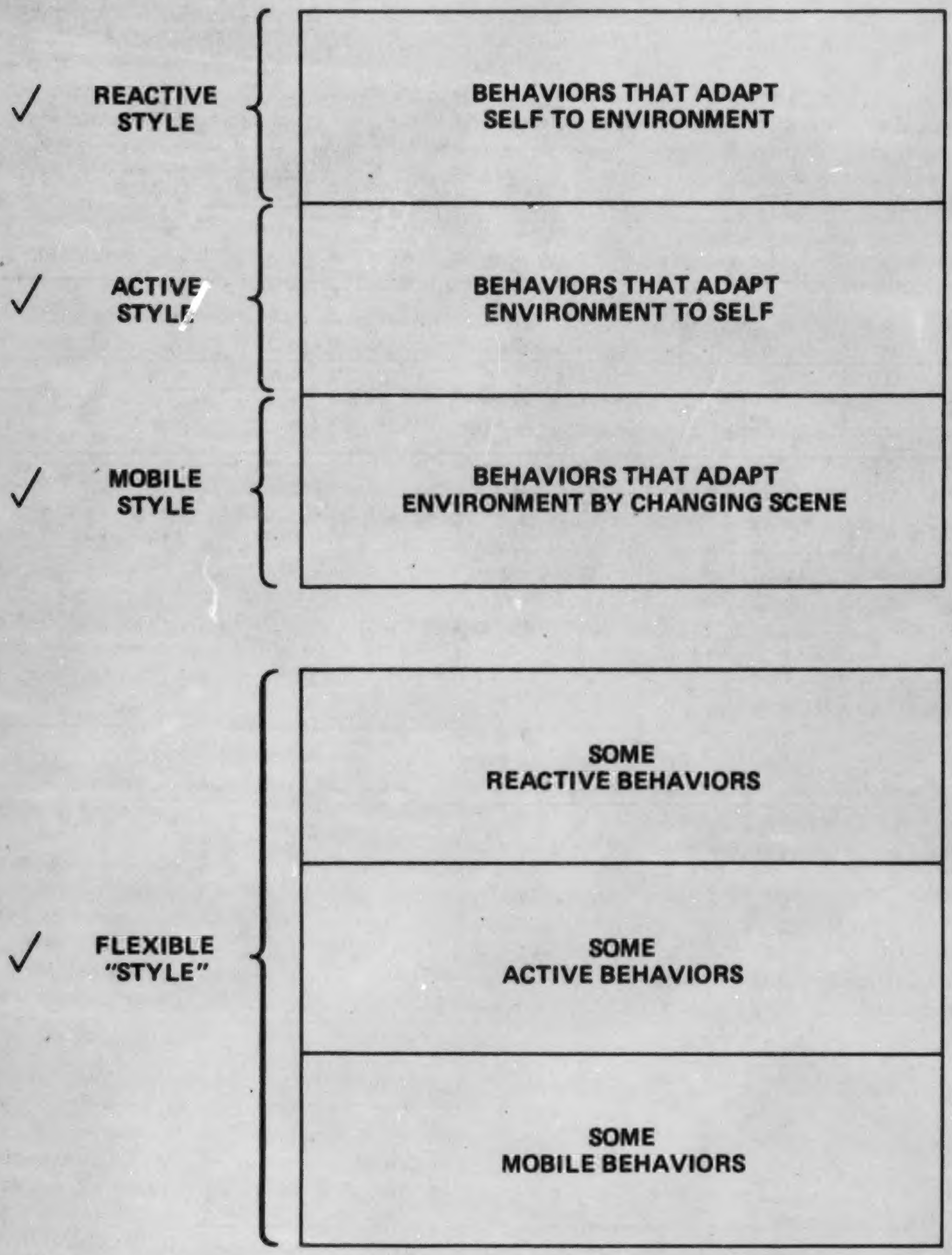
As was noted in the literature review regarding adaptive behaviors (Chapter IV), people tend to choose adaptive options that they have used before and with which they are familiar. As these tendencies relate to the person's basic personality, and especially to his or her self-esteem and perception of reality, they describe the person's adaptive style. In work, as in life in general, certain basic types of human adaptive styles emerge from the literature. They include:

1. REACTIVE – Adapting yourself to the work environment.
2. ACTIVE – Adapting the work environment to yourself.
3. MOBILE – Adapting by changing the site of the work environment (i.e., moving yourself to a different one).

Of course, these style categories are merely conceptual conveniences for understanding certain basic human adaptive tendencies. Most people do not adapt in all work- (or life-) related situations with behaviors that cluster into only one category. Even persons whose self-concepts and perceptions of reality lead them to take a decidedly Active behavioral style (for instance, a politician, whose work intrinsically demands assertiveness and Active behaviors) will find themselves in situations where behaviors from other style clusters are necessary, more appropriate, or more helpful. In the case of the politician, inevitable verbal attacks by opponents may require Reactive behaviors on his or her part in order to protect self-esteem; other circumstances may require Mobile behaviors, such as switching political parties or deciding to campaign as an Independent. The degree of incongruity between a work environment's demands and an individual's (or in some cases, a work-related group's) needs or desires may require the person to respond with adaptive behaviors that are uncharacteristic of his or her general style.

In a sense, because of this need to have available a somewhat variable repertoire of adaptive responses, most people develop at least some behaviors that belong in each of the Reactive, Active, and Mobile categories. But as was noted in the literature review (French et al., 1974; Katzell & Yankelovich, 1975; Stern, 1970; Vroom, 1964), perceptions of person-environment incongruity are "filtered" through an individual's subjective self—that is, his or her attitudes, values, aspirations, "model" of reality, sense of self and personal stability, etc. We may expect, then, that in selecting an adaptive response for the perceived incongruity, an individual's first tendency will be to choose an adaptive behavior that is most familiar, comfortable, easy, or in effect, *congruent with his or her personality and history of adaptations.* The behaviors that are typical of that person and that tend to cluster into one category or another constitute the person's overall adaptive style. Only when the person's *usual* behavioral choices will obviously (or upon reflection) prove to be ineffective, or have already met with failure in the situation, is it likely that the person will choose an adaptive behavior that is personally innovative—that is, not typical for his or her general adaptive style.

There do seem to be people whose adaptive behaviors do not cluster mostly into any one of the three basic styles. Rather, those individuals seem to have a highly flexible repertoire of adaptive behaviors that includes many selections from *all* of the styles. These persons' patterns of adaptive behaviors may be thought of as constituting a *Flexible* "style" (illustrated in Figure 10). This concept is particularly important in understanding what probably constitutes "maximal" occupational adaptability in contemporary society, and will be discussed in detail in the next chapter.



✓ REACTIVE STYLE
BEHAVIORS THAT ADAPT SELF TO ENVIRONMENT
✓ ACTIVE STYLE
BEHAVIORS THAT ADAPT ENVIRONMENT TO SELF
✓ MOBILE STYLE
BEHAVIORS THAT ADAPT ENVIRONMENT BY CHANGING SCENE
✓ FLEXIBLE "STYLE"
SOME REACTIVE BEHAVIORS
SOME ACTIVE BEHAVIORS
SOME MOBILE BEHAVIORS

FIGURE 10. Styles of occupational adaptation and adaptive flexibility.

The behavioral choices people tend to make vary not only in style but in what we have called *adaptive Quality*—that is, a behavior's relative orientation, efficacy, and consequences. As White (1974) has pointed out, there has been "an unwitting tendency to think of adaptive behavior in a dichotomy of good and bad" (p. 49). Argyris, for instance, in his Personality and Organization Theory (1964, 1973), discussed the "antagonistic" orientation of numerous work-related behaviors, and similar notions of adaptiveness versus maladaptiveness are common. The wording used in much of the literature on work-related behaviors is heavily laden with such value judgments, primarily from the point of view of work organizations.

Close inspection of the literature on adaptation across the various perspectives reveals frequent contradictions in the valuation of various behaviors. For instance, regarding certain Reactive behaviors:

> ... in the psychological and psychiatric literature there lies a concealed assumption that dangers must be faced because they are not really there, that any delay, avoidance, retreat, or cognitive distortion of reality is in the end a reprehensible piece of cowardice. We must march forward, ever forward, facing our problems, overcoming all obstacles, masters of our fate, fit citizens of the brave new world. (White, 1974, p. 50)

However, Lazarus' (1979) research indicates that "... denial (refusing to face the facts) and illusion (false beliefs about reality) have their usefulness in coping with stress and may, indeed, be the healthiest strategies in certain situations" (p. 44). In regard to work-related behaviors, different studies have found different correlations between certain behaviors and their adaptive import. For example, substitution behavior (substituting "outside" pleasure taken in recreation or volunteer work for a lack of pleasure available in one's work) is seen as a "constructive" adaptive behavior by Argyris (1964), yet subsequent research by others (Meissner, 1971; Parker, 1971; Strauss, 1974) has shown that substitution behavior does not really glean substantial positive outcomes in helping people adapt to dull or otherwise unenjoyable work.

The Quality of adaptive behaviors, in most cases, appears to depend mainly on the situation, which is to say, on the circumstances in which the person attempts to use it *and* on the characteristics of the person him- or herself. In considering some kind of "sliding scale" of adaptive Quality, then, a great many behaviors—and, indeed, probably the majority of them—must be considered "ambiguous"; that is, they may be "more helpful" or "less helpful" when used in some situations than in others and when used by some persons rather than by others. Factors beyond the immediate control of an individual may impinge on the correctness or acceptability of adaptive behaviors, and differences in value systems, cultural perceptions, and objective versus perceived benefits may confound the efficacy and/or ultimate consequences of a behavior. In some cases, adaptive behaviors may be neutral in quality because the behavior has no noticeable effect on the situation or on the person.

Some behaviors, especially those applied in relation to work environments, do appear to be powerfully weighted with general societal notions about acceptability or long-term efficacy. Phillips' (1968) notion of counterproductive social behaviors (i.e., Turning against Self, Turning against Others, Avoidance of Others) has broad, socioculturally-defined analogs in work environments that are generally considered maladaptive, or at least "less helpful" in adaptation in the work context. For example, Turning against Self may be seen in self-deprecation, alcoholism, escapist use of drugs, chronic work-related depression, and the like.* Turning against Others seems to be expressed in work contexts in such behaviors as stealing, sabotage, blaming others for your own errors, assaults, waste, and so forth. Avoidance of Others may manifest itself as frequent or chronic job-changing, or even leaving the work force entirely (as in "dropping out"). While use of these behaviors may be seen as justifiable or necessary by a worker at the time, and probably relate strongly to the person's general valuation of work in relation to his or her life as a whole, they are somewhat counterproductive in the sense of occupational adaptation—that is, if congruency with work is the object of work-related adaptive efforts, then these behaviors generally tend, in the long run, to be "less helpful."

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* In most cases, behaviors categorized as Turning against Self appear to be "less helpful," but some victims of uncontrollable events (e.g., rape, spinal cord injury) may cope better via seemingly irrational self-blame; this may be because such coping allows the continuation of the illusion of a controllable world.

A number of lists are presented next in an attempt to illustrate some of the work-related adaptive behaviors within the three behavioral styles that have been proposed (see Table 2). These are by no means complete lists of behaviors, but reflect some of the more common adaptive behaviors that have been examined in theories and studies of work. In many cases, assignment of behaviors to the adaptive style categories is based on intuition, made necessary by the lack of comprehensive work in the literature on clustering adaptive behaviors other than by their relative congruity with work organization requirements.* In addition, some behaviors—especially the broader ones that actually involve a number of other essential, related behaviors (e.g., a Mobile behavior, "changing careers," involves multiple decision-making behaviors and job-seeking behaviors), are somewhat anomalous and are included only tentatively in the style categories. However, the table should aid in an initial understanding of the types and scopes of behaviors used in attempting to achieve, maintain, or improve worker-work congruity.**

The adaptive behaviors, culled mostly from the work literature (Argyris, 1959, 1964, 1973; Hackman & Lawler, 1971; Hackman & Suttle, 1977; Herzberg et al., 1959; Humphries, 1979; Locke, 1976; Porter & Dubin, 1975; Porter et al., 1975; Rosow, 1974; Salamone & Gould, 1974; Scheele, 1977; Sorensen & Kalleberg, 1973; Strauss, 1974; Vroom, 1964; and others), are arranged in Style categories according to Quality subclasses. As discussed above, many (if not most) adaptive behaviors seem to fall into what is called the "Ambiguous" classification, meaning that their efficacy and long-term consequences seem to depend more on the situation in which they are being used and on the person using them than on a broader, sociocultural consensus of their probable efficacy and consequences. There are, however, a number of behaviors that appear to cluster into consensus-based categories of positive versus negative quality, which are classified here as "More Helpful" or "Less Helpful." Admittedly, these categorizations are somewhat arbitrary and are open to personal interpretation or rearrangement. However, the classifications are offered to aid the reader's understanding of the style categories, and of the effects of sociocultural consensus on what are and what are not considered generally to be appropriate, efficacious, and ultimately constructive behaviors for group or individual adaptation in the context of work.

(In many cases, behaviors listed in Table 2 have been categorized as "Ambiguous" or have been reworded in order to remove at least some of the obvious biases of the studies or theories from which the behaviors were culled. For example, "noninvolvement," a term conveying work organizations' judgment of maladaptiveness, has been categorized as "Ambiguous" and restated as "do the job and nothing but the job; don't concern yourself much with coworkers or the quality of work or products" in order to reflect a suspension of value judgment. In some situations, such behavior might prove to be counterproductive—"Less Helpful"—but in others it could well prove to be an effective adaptive response—"More Helpful"—for the individual or group using the behavior.)

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* While two of the style categories, Reactive and Active, are derived from Lofquist and Dawis' (1969) Theory of Work Adjustment, the theory focused primarily on adaptive concepts and did not include a consideration of specific adaptive *behaviors.*

** It should be noted that behaviors included in the adaptive styles lists do not include behaviors that describe actual performance of job tasks (i.e., job-specific activities). Adaptive behaviors are those that pertain to responses initiated by worker-work incongruities, or potential incongruities, etc.

Table 2, in the first section, presents a sample of behaviors* that seem to be people's attempts at adapting themselves to the work-related environment, that is, behaviors that reflect the Reactive adaptive style. A person whose basic adaptive style is Reactive could be expected to choose (and feel most comfortable using) behaviors of the type listed in the first section of Table 2 more often than other behaviors in their personal adaptive repertoire that fit in the Active or Mobile styles. For example, suppose that our earlier example, Ms. D, has a *Reactive adaptive style.* If she decides that one reason why she has trouble getting her work done is because there is excessive noise in the work area, *her tendency in dealing with the problem will be to adapt herself to the circumstances.* She may choose any number of the Reactive behaviors shown in the first section in order to adapt, such as:

- Resign herself to the situation; "endure and suffer through";
- Blame others (mentally) for her work-related problems, and refuse to work or socialize with them;
- Find harmless ways to reduce job-related tension [e.g., in this case, perhaps by wearing earphones or earplugs to muffle the noise, or maybe by listening to a radio turned louder than the noise, if allowed];
- Develop good adaptive competencies [e.g., in this case, perhaps by sharpening her ability to concentrate on her work, thereby "tuning out" the noise]; and so forth.

Within just these four choices, the last two seem to be the "Most Helpful," in that wearing earphones or sharpening her ability to concentrate on her work will probably enable Ms. D to get her work done despite the fact that the noise itself (i.e., the immediate work environment factor of "working conditions") has not been reduced or eliminated.

We do not know whether resigning herself to the situation will help her to get her work done, because we do not know what level of tolerance Ms. D has (i.e., the subjective person factor of "work personality style" proposed by Lofquist & Dawis, 1969) for noise in the work place—that is, what constitutes "excessive" noise to *her.* By "resigning herself" to the level of noise she may be able to increase her tolerance of it, or it may make little or no difference at all. Because we cannot guess the probable efficacy of the behavior without understanding the particular circumstances, it would appear to belong in the "Ambiguous" category of Reactive behaviors.

Finally, if Ms. D chooses to "blame others (mentally)," she is, in effect, isolating herself from either her coworkers (agents in the immediate work environment dimension) or her company (whose supervisors and managers are agents in the immediate work environment or in the work organization dimensions). Whether her isolation amounts to emotional alienation or to refusal to work or socialize with her coworkers, it will probably not affect the level of noise that is causing the problem, and may in fact create new problems for her. Because the efficacy of blaming others is probably not going to affect the situation positively (and it is difficult to imagine a situation where it would), the behavior would appear to belong in the "Less Helpful" category of Reactive behaviors.

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* The behaviors listed in Table 2 are derived mostly from those studied in earlier research on work, reviewed in pp. 87-96.

Table 2. List of Probable Reactive, Active, and Mobile Adaptive Behaviors

REACTIVE ADAPTIVE BEHAVIORS

("Adapting yourself to the environment")

• LESS HELPFUL BEHAVIORS

Pay less attention to the work, resulting in accidents, errors, breakdown, reduced quality of output

Allow yourself to be distracted from your job easily or frequently

Grudge having to work, and let the feeling show in interactions with coworkers, clients, supervisors, etc.

Blame others (mentally) for your work-related problems, and refuse to work or socialize with them (isolation)

Make yourself feel "better" about your job by drinking, using drugs, etc. (alcoholism and other escapist drug use)

Take your work problems out on yourself (self-deprecation, depression, insomnia, other psychosomatic ailments, attempted suicide)

Tune the world out by withdrawing into a world of your own (withdrawal, non-drug-related hallucinations, sexual preoccupations, etc.)

Avoid, "forget," or delay doing tasks that seem pointless to you or are personally distasteful

Be habitually compromising in your attitudes, or habitually rigid about opinions, plans of action, ways of doing things

Overestimate (habitually) your ability to do a task, or fake competence

• AMBIGUOUS BEHAVIORS

Resign yourself to the situation; "endure and suffer through"

Make pay and work benefits the most important part of your job when the job itself is not very enjoyable (reorienting extrinsic rewards for intrinsic rewards)

Substitute outside things for lack of enjoyment in job:

- recreation
- daydreaming
- increased consumption
- avocations
- socializing ("schmoozing") on job
- dreaming of upward mobility for your children

Lower your expectations of your job's rewards when they seem to be out of your reach

Act, feel, and maybe value being in a subordinate position to others; be passive, dependent, submissive

Change person or group used in making comparisons about equity when expectations are frustrated

Let others make job-related decisions for you that you could make yourself; make decisions arbitrarily (flip a coin) or base them on superstitious beliefs

Give up on job-related problems that seem too difficult, rather than ask for help

Learn new job-related knowledge or skills only when required to do so by management; rely on formal company training programs, only; expect to get by on the job on what you learned in school, or in on-the-job training; rely on the way(s) in which you are used to learning things as the "best" way to learn

Deal with work situations on a "crisis" level; that is, don't worry about them or plan ahead until you can't put them off anymore

Do nothing about situation; let others worry about it (apathy)

Perform the job and act as much like coworkers or supervisors expect you to act, as possible (conformity); stay "in your place"

Do the job, and nothing but the job; don't concern yourself much with coworkers or the quality of work or products (noninvolvement)

... continued

AMBIGUOUS BEHAVIORS continued

- Play it "safe," follow the rules; make your job security your primary concern; avoid taking risks, or new challenges or responsibilities
- Knuckle under to arbitrary or unfair treatment because you are convinced that "things could be worse" (rationalization)
- Value repetitiousness or routine on the job, even if you don't like it, because you feel it's safe
- Avoid change; value old, customary ways of doing things
- Lower your career aspirations; alter your perceptions of what is realistically attainable
- Avoid or pay little attention to feedback about how you're doing your job
- Identify with your immediate job, rather than with the idea of a career, or your work life (narrow, short-run perspective on work)
- Rely on "channels" for work-related information; don't ask questions
- Cry a lot
- Intellectualize situation (cognitive distortion)

• MORE HELPFUL BEHAVIORS

- Diversify your talents
- Develop good adaptive competencies
- Find harmless ways to reduce job-related tension
- Attempt to see the humorous side of job-related problems
- Expect to make mistakes or fail in job tasks once in a while, and don't take it personally
- Expect coworkers and supervisors to have "bad days," and don't take it personally
- Do your best to cope with interruptions, schedule changes, etc., in your work
- Develop a broad repertoire of transferable skills
- Place a high value on personal integrity
- Ask questions, be curious
- Collect information and periodically analyze the trade-offs (opportunities versus restrictions) in your work situation as they relate to your personal goals
- Evaluate (and periodically reevaluate) your own goals, values, strengths, and weaknesses as they relate to your work life
- Keep a balance between your "internal and external orientation" (that is, between your need for intrinsic satisfactions and the external pressures for power, success, material possessions, etc.)
- Base your decisions about work on both your intuition and logic (use both "sides" of your brain)
- Accept the probability that any decision you make is a calculated risk, there is no "perfect" answer; don't let ambiguities and conflicting demands "throw" you
- Take action in a situation only after deciding that inaction is not a viable alternative (that is, change is not always the best strategy)
- Distribute your commitments where possible (don't "put all your eggs in one basket") and be willing to accept and admit mistakes or to make a necessary "strategic retreat"
- "Learn the ropes" in a job as quickly and smoothly as possible
- Follow established rules and procedures in a new job, and don't presume that you know it all
- Gather as much information about a situation as possible (before committing time and resources to it) in order to:
    - — find some earlier method, etc., that might be adaptable to your use; or
    - — avoid "reinventing the wheel"

... continued

MORE HELPFUL BEHAVIORS continued

Allow reasonable time for adjustment to changes in your work life

Learn to recognize cues that portend change in your company or in your immediate work setting

Take care to communicate clearly and courteously

Monitor the quality of your work

Concentrate on what needs to be done on your job

ACTIVE ADAPTIVE BEHAVIORS
("Adapting the environment to yourself")

• LESS HELPFUL BEHAVIORS

Keep vital knowledge or information from others at work because it is "yours" or you don't trust them (secretiveness, suspicion, noncommunicativeness)

Perform erratically on the job

Shift the blame ("pass the buck") for errors, problems, especially your own failures; make excuses

Hide unfinished or substandard work, cheat on production records, and other dishonesty

Steal from the company (pilferage) or deliberately waste time or materials

Chronic complaining

Sell company secrets, or other forms of sabotage

Create or encourage informal groups of coworkers in order to sanction antagonistic behaviors, such as group slowdowns, quota restrictions

"Appropriate" time or resources from other coworkers

Cultivate rivalries for your own advantage

Exhibit excessive territoriality

Take your work problems out on others via:
- threats
- assaults
- outbursts of temper
- excessive criticism
- robbery
- arguments and other expressions of hostility
- bigotry
- sexual harrassment
- sexual perversions indulged in or around the work place
- ostracization, etc.

Tease coworkers excessively, pull practical "jokes," do other annoying, "harmless" things frequently

132

• AMBIGUOUS BEHAVIORS

Delegate tasks to others when you don't have time, skills, resources

Complain informally to coworkers and/or supervisors about work-related problems

File formal grievances

Be outwardly competitive

Play interpersonal power games or build your own "empire" at work

Locate and use outside assets, resources, support, or advice when the work setting doesn't provide them

Show assertiveness; rock the boat or break the rules when you feel it's appropriate

Use your sexuality to make alliances on the job or to pressure for your goals

Date or marry your boss or your boss's friend or relative in order to help attain your work goals

Take part in or sanction union or other negotiations for "featherbedding" jobs

Let your union or other coworkers handle negotiations with management concerning positions at your level in the firm

Organize or participate in union or "wildcat" activities, negotiations, strikes

Trade goods or services with others for their help with your problems at work

Make private deals or engage in politicking (mostly on management level)

Praise, support, or do favors for persons in positions of power regarding your job

"Hitch yourself to a rising star"

Make use of an "Old Boy" or "Old Gal" system to make influential contacts within your company and find out or take advantage of job-related opportunities

Be publicly critical of others' work

Try to minimize distractions on job

Use your influence in organization or union to keep others "in line"

Press for changes in the work situation

Persuade others to do tasks your way

Talk to others about work problems

Organize or participate in professional or quasi-professional groups to expand your knowledge, skills, contacts, and visibility in your occupational field, as well as to further the goals of your profession

Actively seek feedback on your performance

• MORE HELPFUL BEHAVIORS

Demonstrate leadership:
- take on or share responsibility for team efforts
- troubleshoot team problems
- participate in group planning and decision making
- provide direction and supervision
- monitor quality of outcomes

Demonstrate autonomy and self-management; that is, your willingness and ability to take on tasks on your own and to work competently without close supervision

Seek responsibilities and prestigious assignments beyond the scope of your job description, according to your time and abilities (job expansion)

Seek ways to apply your skills and knowledge in innovative, inventive ways on the job (transfer your skills to new contexts)

Socialize on the job and show optimism, calmness, a good sense of humor

... continued

MORE HELPFUL BEHAVIORS continued

Develop friendships and alliances in the work setting to create a group identity (show belonging)

Ask for (and give) help, instruction, advice, or support from coworkers and/or supervisors when appropriate

Seek and consult mentors (other than your supervisor) in your work place, or be willing to act as a mentor for a less-experienced coworker

Recognize and link up with complementary abilities of coworkers to establish a productive team situation

Be sensitive to other people's feelings, problems, and abilities, and be supportive when appropriate (empathy)

Organize your work load as much as possible to suit your own work style, pace, and interests (personalize your job)

Recognize and act on opportunities to emphasize your favorite abilities in your job while minimizing the parts of your job that you like least (job redesign, job enrichment)

Seek ways to make your unique abilities available—and visible—to others in the work place ("exhibit specializing")

Seek (insist on, if necessary) sufficient advance notice from your organization or supervisor regarding any significant changes to occur in your job, coworkers, work setting, supervisors, company policies, or other factors that may affect your work life

Seek participation in setting organizational goals and standards

Find ways to *document* your unique contributions at work, such as:
- inventing new ideas or processes
- participating in planning
- bringing assignments in early or under budget
- doing extra unassigned work
- representing the company to outside agencies, media, etc.

Use your unique work contributions to negotiate for both intrinsic as well as extrinsic rewards or opportunities, such as:
- (extrinsic):
  - wages, benefits
  - flex-time, vacation time
  - job rotation
  - crew or team membership or size
- (intrinsic):
  - job content, work load
  - work location or furnishings
  - promotions or transfers
  - training opportunities
  - sabbaticals, etc.

MOBILE ADAPTIVE BEHAVIORS
("Adapting in Work by Changing the Scene")

• LESS HELPFUL BEHAVIORS

Walk off a job without giving adequate notice

Lie excessively on your resume or in interviews; falsify your credentials

Turn to "asocial" activities in lieu of work: crime, avoidable dependence on welfare or charity, and the like

Drop out of the work force permanently because you're "disenchanted" with it

Find out who your competition is and seek ways to "sabotage" your rivals

• AMBIGUOUS BEHAVIORS

Seek or accept a transfer from one part of a company to another part

Change jobs (from one company to another)

Drop out of the work force temporarily because of personal priorities, such as childrearing, caring for an ill member of your family, or the like

Seek a promotion

Take an early retirement

Seek only short-term, low-skilled temporary jobs (chronic short-term employment)

Spearhead a movement into a career or position that is nontraditional for members of a sexual, ethnic, racial, religious, etc. group to which you belong

Work only occasionally, interspersed with long periods of unemployment and collecting welfare, charity, etc. (chronic unemployment)

Depend on your resume and job application forms to be all you need to get you hired

Use "Old Boy" or "Old Gal" system contacts to locate opportunities for transfer, promotion, or a new job

Set (and stick to) time limits on the progress of your career

Establish your career goals early and pursue them before other personal goals or commitments

Be inflexible (or excessively compromising) in negotiations for your most important intrinsic and extrinsic job values

Be competitive

Minimize or hide prior negative experiences related to your work life, such as:
- having been fired from other jobs
- prison or delinquency records
- medical or psychiatric problems
- dishonorable military discharge

Attend work erratically (absenteeism), or frequently arrive late, leave early, and/or take extra-long lunch hours or breaks frequently

Moonlight (work another job)

Go to work for yourself instead of working for someone else (entrepreneurship)

Become a job-shopper; that is, use your unique abilities to hire yourself out to various organizations as a consultant or troubleshooter

Recognize and act on an opportunity to create a unique function or position for yourself (job creation)

Change careers

• MORE HELPFUL BEHAVIORS

Watch for signs in a job that tell you it's time to move on—or out

Continuously gather and assess information on job opportunities, both within and outside your current job as well as within and outside your immediate professional specialty or interests

Develop a long-range career perspective, but recognize that many factors (including personal internal changes as well as gross economic upheavals) may make your long-range goals infeasible

Leave a job situation that did not pan out as expected, considering it an experiment that didn't work, not a personal failure

Explore and analyze (and periodically reanalyze) which abilities you have that you currently enjoy using the most (i.e., evaluate your "motivated skills")

Keep a dossier or portfolio of projects or commissions or consulting work performed outside your job, as well as an up-to-date resume

... continued

MORE HELPFUL BEHAVIORS continued

Develop and use effective job-hunting skills and knowledge for the occupational area(s) that interest you

Develop and use effective interviewing skills

Understand and effectively communicate your ability to transfer your skills to new contexts

Find out about unstated informal policies and rules in a work situation you are considering entering

Assess an organization or career area you're considering entering and find out who's been successful in it and why; base your plans and your alternatives accordingly

Have a "Plan B" in the event that your first choice doesn't pan out or you change your mind

A NUMBER OF BEHAVIORS RELATED TO MORE ADAPTIVE MOBILITY ARE THE SAME BEHAVIORS RELATED TO MORE ADAPTIVE ACTIVE BEHAVIORS, such as:

- (Re)analyze personal values, goals, abilities, and directions
- Seek credit for experiential learning
- Document work contributions and keep updated resume, etc.
- Demonstrate willingness and ability to take on new responsibilities
- Recognize portents of change and make changes work for you
- Recognize your personal options
- Be aware of dangers of "Peter Principle" and avoid them
- Negotiate for what you want
- Plan ahead and anticipate bottlenecks in your career plans

The Active adaptive behaviors, represented in the second section of Table 2, include those typically used in attempts at adapting the environment to the individual (or group) implementing them. If Ms. D's basic adaptive style is Active, for example, she will feel most comfortable with and be most likely to use behaviors from this list to deal with her problem of getting her work done in an excessively noisy work environment. She may choose such Active behaviors as:

- Chronic complaining;
- File formal grievances;
- Organize her work load as much as possible to suit her own work style, pace, and interests (personalize her job) [e.g., in this case, perhaps by rearranging tasks—or work hours, if possible—so that work requiring a quieter environment can be done at times when the noise level is lower] ;
- Seek participation in setting organizational goals and standards.

Within these choices of Active behaviors, the last two seem to be the "Most Helpful," in that rearranging her tasks or hours, or taking part in setting organizational standards (especially in regard to work conditions), will probably help Ms. D either to reduce the immediate stress of the noise or to reduce the actual amount of noise itself. By adapting her work environment to herself, she will be able to avoid or eliminate a problem in getting her work done.

It is not possible to predict, without knowing the circumstances, whether "filing a formal grievance" about the noise level will result in some action being taken (presumably by others in the work organization) to reduce it. In addition, there may be informal negative backlash in some work organizations directed at the person who files a grievance. Thus, "File formal grievances" appears to fit into the "Ambiguous" category of the Active behaviors.

Finally, if Ms. D chooses to resort to chronic complaining (especially if that were *all* she did regarding the noise problem), it would probably not affect the noise level significantly, and may in fact create other problems (with other persons in the work environment) for her. And her work would still not get done on time. "Chronic complaining," then, appears to fit most appropriately in the "Less Helpful" category.

The Mobile adaptive behaviors, involving adapting the environment by leaving it in some manner, are shown in the third section of Table 2. If Ms. D's basic adaptive style were Mobile, she would feel most comfortable and be most likely to use behaviors from this list to deal with her problem.* She may choose such Mobile adaptive behaviors as:

- Accept a transfer from one part of a company to another;
- Walk off a job without giving adequate notice [e.g., in this case, deciding that she can't take another day of the noise and simply quitting] ;
- Watch for signs in a job that tell her *it's time to move on—or out;*
- Go to work for herself instead of working for someone else in order to bring her closer to her personal goals and values (express self-actualization by becoming an entrepreneur).

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* Of course, few people (except possibly the chronically unemployed) have such low tolerances for work-related incongruencies, and so it is expected that few workers will be found whose basic adaptive style is Mobile.

Of these four possible behaviors (and others are certainly also possible), the last two are again the "More Helpful" ones for mobility. A person in Ms. D's situation–i.e., unwilling or unable to tolerate and perform in noisy work environments–may find moving on (or out) in jobs is the best way to deal with such problems (in effect, she may sample jobs in different work sites or work organizations until she finds one where the noise level is tolerable). Alternatively, Ms. D may find that her own needs as regard noise levels are unusual, and in order to work in a personally comfortable environment she may decide to construct her own by becoming an entrepreneur (working for herself or setting up her own business in which she can control such things as working conditions).

"Seeking a transfer from one part of a company to another" might work very well for alleviating Ms. D's noise problem, but without knowing more about the working conditions in the other work site we cannot be sure. This behavior, therefore, seems to belong in the "Ambiguous" category.

Finally, impulsively quitting her job ("walking off a job") may eliminate Ms. D's immediate work problem, but the likelihood is high that subsequent repercussions will bring new problems and new adaptive challenges that might have been avoided by choosing a different adaptive behavior to deal with the noise level. Therefore, it seems appropriate to put "walk off a job without giving adequate notice" in the "Less Helpful" category of Mobile adaptive behaviors, at least for most cases.

While the model of occupational adaptation presented in this paper does not directly address the issue of how a person's probable adaptive responses might be predicted–or whether a person is likely to implement a response atypical of his or her general adaptive style–Lofquist and Dawis (1969) claim that "an individual's typical mode [i.e., here called style] of adjustment can be predicted from his [sic] response and reinforcement history" (p. 68). Lofquist and Dawis go on to add that the character of the work environment, described by them in terms of its overall flexibility versus its rigidity, may facilitate or inhibit a person's use of one or another response style:

> If the work environment is flexible, the active individual can change it to increase correspondence. If the work environment is rigid, the active individual cannot change it and will find it necessary to leave the environment, or to adopt a reactive mode of adjusting. In contrast, the reactive individual is relatively unaffected by the flexibility or rigidity of his [sic] work environment. (Ibid.)

Hamburg et al. (1974) also discuss the interplay between personality (expressed here in terms of adaptive style) and situational factors:

> If the situation is appraised as one that cannot be changed externally–if the person's environment is essentially intractable–then an effort is made to manipulate it internally. If, on the other hand, promising ways of changing the environment for the better are envisioned, however dimly, then the possibilities for direct action are explored. . . . Just as situational factors may pull for intrapsychic [i.e., Reactive] as against interpersonal [i.e., often Active] coping responses, so too personality factors strongly influence this choice. Individuals who feel competent to deal with a threatening situation are more likely to undertake interpersonal, direct-action responses, as compared with those who have a low sense of competence or power. (pp. 434-435)

The implications are that a person's overall adaptive style should be predictable and will probably be determined primarily by personality characteristics such as self-esteem, self-concept, and perception of reality, and by the person's learned adaptive competencies. These in turn affect whether a person perceives an adaptational stimulus as a threat or a challenge, and this may affect whether a person chooses to rely on his or her familiar repertoire of adaptive behaviors (clustered mostly in a style) or to use a personally innovative one (from a less familiar style).

Of course, adaptive responses may not always be readily visible behaviors, nor take the form of an isolated behavior. Using the example of the politician mentioned earlier, suppose our politician sees an opportunity to improve congruity with the work environment by making new allies in his or her political party. To do so, the politician proposes a somewhat controversial piece of legislation (let's assume that the politician also has altruistic motives in this action) that will net the new allies. At the same time, some of the politician's constituents consider the new legislation undesirable, and criticize him or her for the action. The politician knew that there would be some trade-offs in taking the action, and expected to have to endure the criticism—some of it personal—in order to achieve his or her new goal. In effect, implementing a behavior intended to adapt the environment to his- or herself (Active style) also entails use of certain personal defenses, such as avoiding the criticism as much as possible and enduring what he or she cannot avoid (adapting self = Reactive style). We may say that because the person's overall adaptive response had the intention of adapting the environment to his- or herself that the adaptation was, in effect, Active, but the concurrent and necessary Reactive behaviors illustrate what may confound the use of this model, at least in its current version, for predicting adaptive styles.

Other problems impinge on the predictability of the use of adaptive styles. Adaptability does not seem to be unidimensional or even particularly stable in individuals, and is not always predictable from past behavior. For example, some persons who have lived relatively "sheltered" lives can adapt to radical changes under emergency conditions. Another example is the discovery that people do not necessarily avoid "discomforting information"; sometimes they do and sometimes they don't (Freedman & Sears, 1965).

Grinker (1974) points out another caveat in that "the adaptive tasks are seen to be different at each phase [of life], and coping patterns vary depending upon biological factors, the learning opportunities, and environmental experiences that are associated with the individual's sex, ethnicity, and social class" (p. xix). In the case of adaptation in *work,* for example, one might think that because an older worker will presumably have developed better work "savvy," have broader working and learning experiences, and a stronger and more extensive support system, that the older worker should be better prepared to deal with a plant shutdown and the consequent need to find a new job. In fact, a younger, less experienced worker may well be in the better position, adaptively, because he or she may not have significant outside responsibilities (such as dependents, mortgage, etc.), is less likely to have developed a great emotional investment in the old job, will probably not have accumulated much seniority or retirement benefits that will be lost, may not be as specialized a worker (and thus may be more likely to find a new job faster), and be closer to his or her education or training than the older worker (that is, less likely to have obsolete or long-unused job skills). Thus, while the job-related adaptive activity for both the older and younger worker may, on the surface, seem to be the same (i.e., find a new job), it is really not the same at all.

As the example illustrates, the prediction (and possibly the analysis) of adaptive responses cannot revolve around models of "typical" adaptive situations. For every person and every situation, adaptation is unique. The most we can hope to achieve, at least at this point, is a better understanding of the general adaptive tendencies, expressed as adaptive styles, that people exhibit mostly through behaviors.

Predicting the probable Quality of an individual's adaptive responses may be simpler than predicting his or her adaptive response style. As Phillips (1968) notes,

> The individual's potential for adaptation or disorganized behavior is viewed as dependent solely on the level of psychological development he [sic] has achieved. . . . Whether he will *in fact* manifest adaptive patterns of behavior or become disorganized in response patterns [i.e., chooses counterproductive,

> "Less Helpful" responses] is viewed as a consequence of interaction between achieved level of personality development and the nature of the social environment within which he interacts. . . . If pathology [i.e., maladaption] does occur, its form will depend on the individual's characteristic behavior style.* (p. 10)

In effect, the Quality of a person's adaptive responses is a function of his or her "essential psychological resources for coping with environmental complexities or environmental change" (Ibid., p. 22).

How the person perceives (evaluates emotionally) the adaptational stimulus seems to be extremely important here. Presumably, if the person feels that the situation is a "crisis," rather than a "challenge," the issue of control arises. If the person feels capable of dealing with the situation, that is, feels that he or she *is in control*, the person is less likely to respond with "Less Helpful" behaviors. Argyris (1964) points out that, in work, "the more rigidity, specialization, tight control, and directive leadership the worker experiences, the more he [sic] will tend to create antagonistic adaptive activities" (p. 59). That is, if the worker feels that the work environment is controlling him or her, rather than the other way around, the probability of "Less Helpful" adaptive responses being used goes up. Of course, for behaviors listed within the styles categories as "Ambiguous," whether they ultimately end up functioning as "More Helpful" or "Less Helpful" (or neutral; that is, having no noticeable effect) is also situationally dependent, and the value the person using them attaches to them (positive or negative) may have a great deal to do with what their eventual consequences turn out to be.

Adaptive Outcomes

Once a person has chosen (unconsciously or consciously) his or her adaptive responses and has implemented them (or at least has begun to implement them), the behaviors begin to affect or not affect the adaptive situation. Feedback on short-term effects may begin almost immediately. In most cases, though, adaptation is a longitudinal process. Even in those rare, highly critical instances where some degree of "instant" adaptive response is required (such as, "I have such-and-such job opening to fill by tomorrow—do you want it?"), some sort of *post hoc* adaptation is often needed (e.g., "getting used to the idea"). Feedback from adaptive efforts similarly takes time, as their direct and indirect repercussions on the adaptive situation develop. Indeed, strategies of adaptation (systems of linked adaptive responses) themselves are seldom one-shot activities; rather, they develop over time, and involve appraisal of feedback, reappraisal of adaptive response choices, and subsequent application of further responses. As White (1974) notes, "Strategy is not created on the instant. It develops over time and is progressively modified in the course of time" (p. 59).

Assuming that a reasonable amount of time has passed for the latest set of adaptive behaviors to affect the adaptive situation, what criteria do people use to decide whether the adaptive efforts have succeeded or failed? What are the outcomes for occupational adaptation?

In a sense, the "success" of adaptation can be determined only by the person who is the adaptor. Heneman (1973) discussed this point:

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* That is, we may expect the person to select the "Less Helpful" response(s) from those within his or her general adaptive style.

> The individual seeks correspondence with his [sic] own environment; both he and his environment change through time. He measures his success or failure by whether his efforts yield the results he desires. (p. 24)

Where establishing, maintaining, or reestablishing "correspondence" (or congruity, etc.) is the overall adaptive goal the person is pursuing, the achievement or failure to achieve an adequate level of correspondence (however the person chooses to define it) is the criterion for success or failure. Where the person's overall goal is *improving* correspondence (or congruity, etc.), success or failure depends on whether the individual's expectations about the degree of improvement are met.*

Literature concerned with adaptation in the work context has dealt with adaptive outcomes in terms of equilibrium, correspondence, tenure, satisfactoriness, productivity, job satisfaction, and quality of work life. It is probably reasonable to set aside satisfactoriness, and productivity as immediate considerations in most *individual* adaptation, as they are primarily concerns of work organizations. Equilibrium, tenure, and correspondence (or congruity) with or in the work environment are, as we have seen, not the only considerations in individual adaptation, because they do not address issues of improvement, or—in the adaptation literature—self-actualization. Both job satisfaction theories and notions about quality of work life address goals of self-actualization and the establishment, maintenance, or reestablishment of worker-work equilibrium.

As the literature review has disclosed, there are numerous problems with the notion of job satisfaction as the goal of worker-work interrelationships and adaptation.** "Satisfaction" is a variable, tenuous feeling or judgment that can change from day to day. Moreover, as it has generally been conceived in the literature, job satisfaction as an outcome does not address the vital issues of how a job integrates with an individual's life away from the job, or how it functions in the overall satisfaction and progress of a person's life and life goals.

> The individual cannot sharply distinguish work from nonwork because work is still integrated into the whole of life. Work concepts affect society, and vice-versa. Consciously or not, the worker seeks peace, adjustment, or other satisfactions. . . . Man [sic] lives not by bread, ergs of energy, social status, or habit alone. (Heneman, 1973, pp. 23-24)

Notions of the Quality of Work Life movement have addressed the problems and issues mentioned above, but have, as yet, offered little in the way of strategies useful to individuals for progress toward attaining or improving it. In that occupational adaptation concerns both problems of worker-work congruity or equilibrium and those of self-actualization, it may be useful in the pursuit of the more immediate as well as long-range goals of individual workers, as well as of policy makers concerned with the societal issues of the Quality of Work Life.

Most people judge the adequacy of their adaptational outcomes automatically and intuitively, having set mental criteria for "minimum acceptable success" at or around the time that they decided which adaptive response(s) to implement. Usually implicit in such mental standards is the realization —gained mostly through "the school of hard knocks" (i.e., experience)—that there are many situations that can be met only by compromise or even resignation to them (White, 1974). As Adams and Lindemann (1974) note, "to a considerable extent, failure in adaptation may be seen as a product of insurmountable obstacles in the environment" (p. 132). Reaching that conclusion, a worker is likely to resort to some kind of Reactive, self-protective adaptive effort in his or her subsequent attempts to deal with the source of incongruity.

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* Possible observable indicators of successful adaptation for certain situations might include (a) reduction of negative affect, (b) improved physiological well-being, (c) reduction of the use of psychotropic drugs and alcohol, or (d) improved cognitive behavior (such as problem solving).

** See "The Job satisfaction dilemma," p. 32.

In those cases where the person does not conclude that the adaptive effort was a complete failure, or concludes that the initial effort failed but the obstacles in the environment are *not* insurmountable, we may expect the person to cycle back through the adaptation process to the "black box" of our model, reappraising the situation and seeking other adaptive response options, or ways to modify the behaviors used earlier. "Described not inappropriately in military metaphors, adaptation often calls for delay, strategic retreat, regrouping of forces, abandoning of untenable positions, seeking fresh intelligence, and deploying new weapons" (White, 1974, p. 50).

In many instances, a person's original criteria for "successful" adaptive outcomes are met, but unanticipated complications or other outcomes also ensue. For example, a person's career goals may prompt him or her to make one or several major job changes, but occupational mobility may involve several kinds of trade-offs or unforeseen consequences in terms of the person's life as a whole, such as (a) breakdown of his or her "extended family," (b) personal isolation and a feeling of non-involvement, (c) family disorganization, (d) ill health resulting from job pressures, (e) a feeling of rootlessness, and (f) various business disadvantages (such as difficulties in transferring capital or credit, a reputation as a "hello and goodbye" employee, or so forth) (Salamone & Gould, 1974).

Another kind of complication that may ensue in adaptive efforts is that of multiple outcomes. A common complication of this kind is noted by Carlisle (1973): "Change tends to generate opportunities, but it also generates insecurity, each of which affects the needs of the organization participants" (p. 74). When the goal of the adaptive efforts has been to effect changes, and the changes then occur, there may be unexpected emotional (as well as practical) repercussions, and these may become a whole new set of adaptational stimuli, requiring new adaptive response. And so the cycle continues.

Summary

The model of occupational adaptation presented here is based primarily on an extensive, eclectic review of literature on human adaptation and adaptation in work. The model is an informal attempt to systematize what is involved in processes of adaptation for purposes of description and further understanding. It does not seem to have immediate predictive utility, although predictive ideas in the adaptation literature are noted where they seem to apply. Finally, while the model is abstract, it suggests more heuristic research directions, which are discussed in the following chapters.

Occupational adaptation is a continuing, dynamic set of processes by which workers seek to establish, maintain, or repair equilibrium or congruity with the work environment, or to improve the overall quality of their work life. Processes of adaptation involve, at all phases, the transactions and interrelationships between workers, the work environment, and the external environment. Changes in those interrelationships, or threats of change in them, or opportunities perceived by an individual to improve the interrelationships, may act as adaptational stimuli. If the stimuli are of sufficient import to the individual, his or her adaptive motivation is aroused, and a process of generating and selecting adaptive responses (in the form of behaviors) ensues. Assuming that the responses are implemented, and adequate time has passed for the behaviors to affect the worker-work interrelationships, the person reevaluates the situation and responds by terminating the adaptive responses, continuing to implement them as they are, modifying them, or adding to them, according to his or her original criteria for adaptive success and according to interim unplanned changes in the adaptational situation.

Occupational adaptability is an individual's work-related adaptive potential, which may vary across situations and time, but essentially involves: (a) the person's *repertoire* of transferable skills and adaptive competencies, history of work- and life-related adaptive experiences, adaptive style, attitudes regarding work, sense of self-esteem, and sense of personal competence and autonomy; (b) the *proficiency and efficacy* of transferable skills and adaptive competencies; and (c) work environment and other external factors that impinge on the worker-work interrelationship. A typical pattern of adaptive behaviors may fit one of four adaptive styles: Reactive, Active, Mobile, or Flexible (i.e., combining behaviors in the other three styles). It is expected, though, that in the first three categories, styles will describe only a person's central tendencies in selecting adaptive responses; most people will, in the course of living and working, have developed some adaptive responses that pertain to the two other styles (excluding the Flexible "style"). Also, under various circumstances, people will create new adaptive responses (which may or may not belong in the individual's typical style) that they have not previously used.

Persons who have a Flexible "style" are able to select quite a few adaptive responses from any or all of the other three styles, with equal ease. There is a great advantage in this, in that a person with a Flexible "style" may feel reasonable confidence in being able to deal with changes, threats of change, or opportunities for work-life improvement, with a number of the basic strategies. That is, according to what the situation and the person's current adaptive goals and energies call for, he or she may adapt him- or herself to the environment, adapt the environment to him- or herself, and/or adapt by making a change of scene.

People's adaptive responses also vary according to the behaviors' adaptive Quality, which is a measure of their efficacy in affecting the situation and of their long-term versus short-term consequences. Most of the literature on human adaptation (and particularly on adaptive behaviors in work) deals with the Quality of adaptive behaviors in terms of constructive versus antagonistic, or adaptive versus maladaptive, responses. The value judgments implicit in such terms reflect the biases and underlying purposes of the researchers. To minimize the biases, adaptive Quality is measured as "Less Helpful," "Ambiguous," or "More Helpful." Most behaviors fall into the Ambiguous category, in that their efficacy and consequences tend to depend on who is using them and in what circumstances. However, societal consensus seems to place certain clusters of behaviors (such as escape from work tensions by excessive drug or alcohol use, acts of sabotage or assault, and chronic and frequent job-changing) in the "Less Helpful" category, and places other behaviors (such as learning) in the "More Helpful" category *in most cases.*

What are the implications of this description of the adaptive processes and factors for workers, for work organizations, and for society as a whole? Harvey (1966) described the implications of *failure* in adapting, and his predictions for *systemic* repercussions may provide important clues for understanding the vulnerabilities of the adaptive process, whether the "system" is a person, a work organization, or a society:

> Failure of . . . the capacity to be sensitized to changing events, to interpret correctly the cues portending change, and to be modified in appropriate ways by feedback from them, results in a state of maladaptiveness. . . . Closedness, over-simplification, or ossification of any part of the . . . interpretive apparatus of a system that mediates between stimulus impingement and response outcome would impair the adaptive or problem-solving ability of a system and dispose toward its termination, especially if the environing world in which it operates undergoes shifts and departures from the state to which the system was initially attuned or adapted. (pp. 3-4).

In the next chapter, the implications of the model of occupational adaptation for improving the adaptability of individual workers will be examined. Some ideas for teaching, counseling, and work-related measurement of occupational adaptation and adaptability will be offered in the context of increasing and refining adaptation in work and in life.

CHAPTER VI.

IMPROVING INDIVIDUAL OCCUPATIONAL ADAPTABILITY

The "Maximally Adaptive Person": A Profile

Having proposed a model for understanding the factors and dynamics involved in occupational adaptation, what are its implications for individual workers and for prosepctive workers? What do we mean when we talk about the capacities of individuals to adapt successfully in regard to work and work/life interfaces? What would a behavioral profile of a "maximally adaptive" person look like?

Presumably, a profile of "the complete occupationally adaptive person" would include competencies in:

1. Adapting the self to the environment;
2. Adapting the environment to the self;
3. Moving from one environment to another;
4. Deciding when to do something and when to do nothing;
5. Selecting which behaviors from (1), (2), and/or (3) are the "best bets" under the circumstances; and,
6. Understanding the necessity of trade-offs and occasional delays or retreats in the continuing process of integrating personal work and life adaptations.

Not only would a maximally adaptive person have a broad repertoire of adaptive behaviors from which to select, he or she would be able to generate and implement innovative behaviors, and to select those most likely to aid in the attainment of work and life goals. As Dunnette et al. (1973) explain,

> Successful adaptation seems to require not only conformity to, or the acceptance of, societal norms, but also *positive and flexible* interaction with the environment.* Moreover, successful adaptation implies responsiveness not only to society's expectations and rules but also to its novel demands. A person may fit into a particular environment—that is, conform—but when he [sic] moves to a different environment, his previously adaptive behaviors may be maladaptive. Consequently, successful adaptation demands behavioral change even though the new behavior is contrary to previous values and attitudes. (pp. 103-104)

Consider an example of a maximally adaptive person facing an adaptive stimulus in work. Mr. Proteus is a teacher in a public high school that is facing budget cuts in the near future. Some of the teaching staff will probably be laid off. If Mr. Proteus has high seniority, he probably doesn't have to worry, but assume that he doesn't, and that he realizes he should make some kind of adaptive response. Reviewing the situation, he decides that he has a number of overall options.

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* Italics mine

First, he can *adapt to the situation* by: (a) accepting it and hoping for the best; (b) ignoring it or convincing himself it isn't as bad as it seems; (c) dwelling on it and letting it get him down; (d) dwelling on it and expressing his anxiety to his family and coworkers; (e) convincing himself that *he* will not be one of those laid off; and so forth. Second, he can *adapt the situation to himself* by: (a) looking for and using opportunities to make himself indispensible to the school (e.g., by assisting in administrative responsibilities, teaching additional classes, becoming a coach or moderator of some valued extracurricular student activity, etc.); (b) improving and excelling in his performance in his original role(s) in the school (e.g., upgrading his teaching skills and knowledge, or his formal relationships with his students); or (c) making or using allies and contacts in the school or school system. Third, he can *adapt by leaving the environment,* by: (a) looking for another position in another school or school system; (b) seeking a promotion into a non-threatened position in the school or school system; (c) deciding that this is a good time to quit teaching for a while and go back to school; or (d) deciding that this is a good time to consider changing careers. Finally, he can postpone other adaptive response by waiting (delaying a major response decision) for further developments in the situation.

Each of Mr. Proteus' behavioral options has built-in trade-offs that affect its efficacy and its ultimate consequences in regard to Mr. P's work and life commitments. For example, if Mr. P decides to look for a position in another school system, it may entail moving himself and his family to another locale, with all the complications and subsequent adaptive demands that would make. If Mr. P decides to use his contacts with the school board to fortify his job security, he may compromise his self-esteem or incur the resentment of other teachers. If he decides that the situation isn't as bad as it seems, or ignores it, or refuses to believe that he'll be one of those laid off, he may be in for a very unpleasant surprise.

The example of Mr. P illuminates the importance not only of having a broad repertoire of adaptive responses, but of (a) clarifying and keeping in mind one's own values and goals in work and life, and (b) developing and using personalized adaptive analytical and decision-making competencies. Clarifying personal values and goals of some sort, even if they are not explicit, can be an important stabilizing force in life as in work. As Scott (1966) has pointed out, the ability to see the difference between means and ends is necessary to effective life-long adaptations: "The ability to generate alternative means to a valued end and to assimilate diversity and contradicting events without loss or abandonment of goals are important aspects of the generic dimensions of flexibility and adaptability" (p. 39).

Closely related to a person's goals and values is his or her capacity to make effective adaptive decisions and to implement them in a continual cycle of progressive adaptive behaviors aimed at spiraling in toward attaining those goals and values. The adaptive response selection processes ("black box") the person uses should suit the person's individual cognitive and learning styles* (necessary to any decision-making or evaluation activity) and the situational press (e.g., time and information available). A maximally adaptive person will more frequently choose and use the adaptive responses that balance between the most practical and the most potent for the situation—in effect, the "best bets."

The maximally adaptive person is characterized by possession of a high level of adaptive versatility. This is characterized by a number of important qualities:

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* See Kirby (1979) for a discussion of the relationships between cognitive and learning styles and occupational adaptability.

1. Relatively stable *life and career values and goals;*
2. A propensity to respond to adaptational stimuli with reasonable *tolerance* (i.e., Lofquist & Dawis' "flexibility") and *celerity;*
3. A repertoire of *flexible adaptive behaviors* and proficiency in using them (illustrated in Figure 11);
4. Knowledge and propensity to generate and select behaviors that will be *"more helpful,"* i.e., developing *adaptive competencies* (illustrated in Figure 11);
5. Individualized and relatively flexible adaptive response selection and outcome evaluation processes; and,
6. Knowledge and appreciation of compromises, trade-offs, risk-taking, multiple demands, and the continual and dynamic succession of adaptive demands and responses involved in adaptation.

These adaptive qualities may be seen to relate to what Woditsch (Note 2) calls "context-independent life skills." It is important to note, though, that in adaptation related to *work,* the adaptive competencies are most useful as they exist in tandem with an appropriate repertoire of generic skills and knowledge. *Both transferable skills and occupational adaptability are vital to establishing, maintaining, or improving the quality of work life.*

Paths for Improving Occupational Adaptability

Can occupational adaptability be deliberately developed in individuals? Can people's adaptability be improved? As Pratzner (1978) reminds us,

> The idea that one set of occupational skills can be learned once and should last a lifetime does not seem to be valid. Thus, there is a need to help individuals at any age to prepare not only for a job, but for work careers characterized by change. (p. 1)

What are the roles of schooling in developing or improving occupational adaptability? Who should be responsible for helping people to learn to adapt more effectively in their work lives? The next sections discuss the implications of the model of occupational adaptation for teaching, counseling, and assessment.

Where Is Occupational Adaptability Learned?

One of the central questions that must be addressed in determining whether education can aid in developing or improving occupational adaptability is where and when people learn their basic adaptive style, skills, and attitudes. Assuming that most individuals develop at least a minimum level of adaptiveness in life, and that many of those persons get and hold jobs, where and when do they subsequently learn to transfer and reshape their adaptive behaviors for use in the context of work?

There seem to be three schools of thought on where "higher order skills" such as learning-to-learn skills, transfer skills, and other adaptive competencies are learned. The first is that they are largely inherited or constitutionally determined (Datta, Note 1), and, in fact, there is some evidence that some very basic adaptive behaviors may be biologically based, such as tendencies for exploratory and observational learning, aggression, flight, and other "instinctual" responses (Hamburg et al., 1974). Other theorists think that adaptive styles and behaviors within them are learned, but cannot be taught as specific behaviors; rather, they are based on early childhood impressions and behavioral

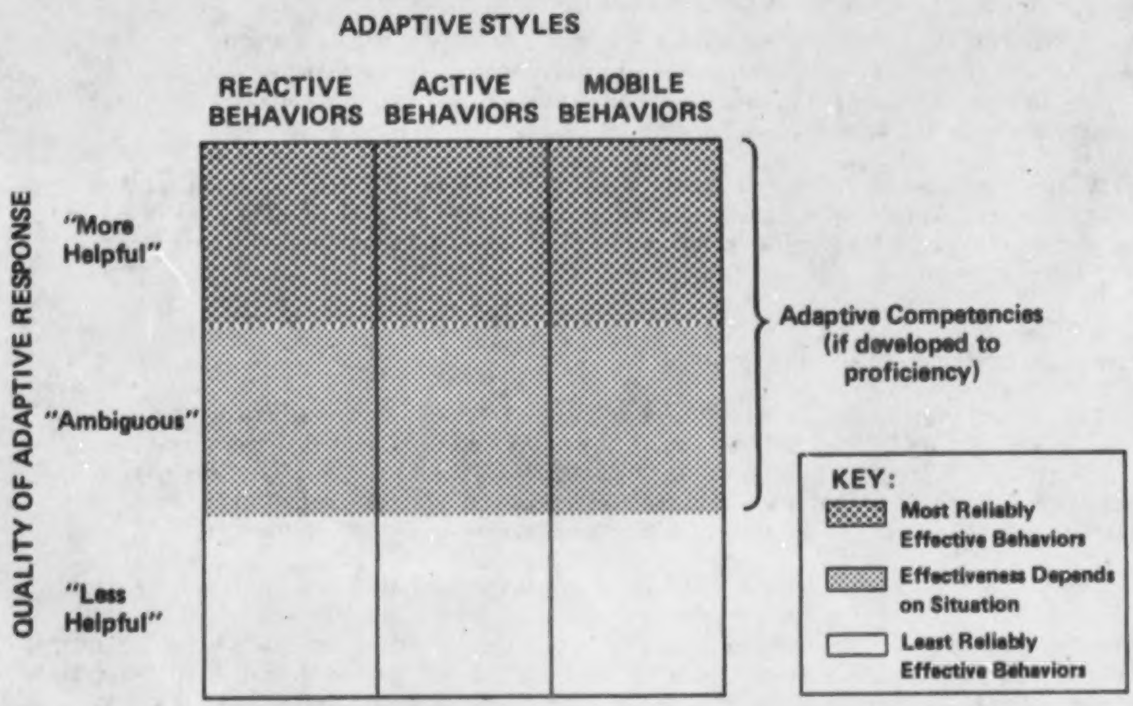
ADAPTIVE STYLES
REACTIVE BEHAVIORS
ACTIVE BEHAVIORS
MOBILE BEHAVIORS
QUALITY OF ADAPTIVE RESPONSE
"More Helpful"
"Ambiguous"
"Less Helpful"
Adaptive Competencies (if developed to proficiency)
KEY:
Most Reliably Effective Behaviors
Effectiveness Depends on Situation
Least Reliably Effective Behaviors

FIGURE 11. Ideal repertoire of occupationally adaptive behaviors available to "maximally adaptive" persons.

modeling. Such "differential socialization yields differential adaptive skills . . . [and] differential adaptive skills are a result of the social class, and early childhood and family experiences of individuals" (Dunnette et al., 1973, p. 103; also see Weinstock, 1967).

The third school of thought, and that most consistent with the assumptions on which the model of occupational adaptation is based, is that basic adaptive *patterns* (styles and related attitudes) appear to be learned in childhood and during the adolescent developmental crisis period (Erikson, 1959; Murphy, 1962), but that the adaptive behavioral *repertoire* is continuously developed and expanded through experiential learning. In this view, the assumption that "it's all over by age seven" is erroneous. Woditsch (Note 2) contends that

> . . . skills not only emerge, but submerge and recurse. There is a good deal of backing and filling, much trial and error. There is not so much a stepwise elevation of the maturing individual's ability as there is an extension of his [sic] behavioral repertoire; the relatively crude early ways of managing experience are conserved and employed alongside newer, more complex and sophisticated ways. This view suggests much greater scope for an almost reflexive *choice* by human agents regarding which of a range of behaviors might be employed in any given instance. (p. 6)

The use of socialization practices by work organizations for incoming workers, the success of adult learning programs, and of meditation, assertiveness, and other adaptive intervention techniques indicate that while people may acquire their basic adaptive styles in childhood or adolescence, it is possible for older adolescents and adults not only to add to and refine their basic adaptive repertoire, but to learn *new,* relatively uncharacteristic-for-them kinds of adaptive behaviors. However, the more sophisticated and innovative the behavior is for a given person, the less likely that it will be learned without a deliberate effort on the part of the person or by intervention through training. Finally, some adaptive situations may not arise until a certain age or stage of life is reached—for instance, entering the first job, making the first job change, leaving or reentering the labor force, changing careers, being fired or laid off, facing retirement, and so forth—and the adaptive behaviors needed may not be developed until there is a call for them, if they are developed at all.

While the basics of life adaptability are apparently learned in childhood and early adolescence, and are refined and extended through formal and informal learning and experience throughout life, application of general adaptive competencies to the context of work does not appear to be explicitly taught (for some exceptions, see Miguel, 1977). Also generally neglected are adaptive competencies specific to work demands, such as job-seeking, and job-getting skills, working with or without supervisors, asking for a raise or promotion, participating in a union, and so forth.* Most people learn these competencies—*if* they learn them—on the job or on their own.

Teaching for Occupational Adaptability

If developing or improving occupational adaptability in individuals is assumed to be desirable, where can it best be taught and who should be responsible for teaching it? While trying to answer these policy questions is beyond the scope of the current paper, three types of existing societal institutions are intrinsically involved in the issues and are in positions to affect the development and improvement of adaptive competencies: (a) work organizations (through training programs, staff development programs, tuition reimbursement, etc.); (b) unions and professional groups (through seminars, conferences, training programs, and publications for members); and (c) traditional as well as nontraditional educational systems (secondary and vocational education, postsecondary training and educational institutions, CETA, other adult education programs, etc.).

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* See Selz, Jones, and Ashley (1979) for results of a national survey asking Americans where they learned these and other functional competencies of occupational adaptability.

It is probably possible to teach the kinds of skills, knowledge, and attitudes important to occupational adaptation (see Figure 3, p. 61), at least to some degree, but teaching them as part of a system for dealing with work/life adaptive situations (e.g., this or some other model of occupational/life adaptation processes) could be very helpful. Mastering adaptive competencies is not enough unless the individual has an understanding of their overall import and utility in his or her own life. As Lazarus (1979) notes, "one reason why people fail to cope effectively is that they do not understand the hidden agendas or faulty assumptions that interfere . . . [with how] techniques . . . actually work in the demands of the real situation" (p. 60). Nee (1978) suggests a vital component that any attempt in teaching occupational adaptation should not neglect: "In order to develop decision-making abilities, educators should generate successive alternate images of future occupations . . . and continually update these images" (p. 3). In other words, teachers must impart an appreciation of change as it affects the work world.

Very little appears to be known about how to go about teaching adaptive skills. Short (1979) has made a number of suggestions, and data from a national survey on 39 functional competencies in occupational adaptability (Selz, Jones, & Ashley, 1979) may ultimately be used to help design the content of instructional guidelines for teaching adaptability. Clues for teaching and reinforcing adaptive competencies, as well as for teaching transferable skills, appear in Abram (1979) and in Selz and Ashley (1979).

Should occupational adaptability be taught in specific curricula, or should it be embedded in other curricula? According to Craven (1977),

> There are at least two ways to approach the task of providing more training in the sphere of work-related . . . [adaptive] skills. One is to offer separate courses that deal specifically with the very kinds of problems encountered on the job. The other method is to incorporate and integrate this training into the existing skill program itself. Most valuable would be the use of both methods, each reinforcing the other. (p. 32)

Career education seems to address some of the needs for a specific curricular area aimed at teaching occupational adaptability. For instance, career education:

1. is multi-dimensional, aiming to equip individuals for many roles: economic, community, home, avocational, religious, and aesthetic;
2. aims to supply persons with information and skills which will allow them to choose more rationally from an increasing number of career options;
3. seeks to provide a comprehensive learning experience in which educational and employment opportunities remain open at several levels. (Goldhammer & Taylor, 1972)

While career education curricula could conceivably be tailored to teach specific components of occupational adaptability, how skills, attitudes, and knowledge intrinsic to occupational adaptation may be effectively embedded into existing educational programs remains a problem. Remember that occupational adaptability is only the part of work life that deals with change, threats of change, or opportunities to improve an acceptable work situation. People must still acquire and learn to transfer generic and job-specific skills. They must be able to perform functions as workers before they can assume the roles relating to work.

Do people become more adaptable because they have mastered a broad repertoire of skills, or do they develop a broad repertoire of skills because they are more adaptable? It is not possible, in any curriculum nor any lifetime, to learn everything. The problems of deciding *how many* of *which* skills, et al., should be crammed into already-bulging school curricula are very real ones. Some of the policy questions about the trade-offs between teaching basic functional competencies versus higher order ones are examined in detail in Brickell & Paul (1979).

There has been considerable argument, particularly among vocational educators, as to whether the emphasis in vocational training should be shifted from teaching task-specific skills to teaching more generalizable (i.e., transferable) abilities, or whether current practices that teach basic concepts and competencies *implicitly,* but not explicitly, aren't sufficient for most students' career needs. It is uncertain whether occupationally adaptive skills and attitudes *can* be taught apart from functional and specific-content work skills (for a discussion, see Dunnette et al., 1973, pp. 104-105). Woditsch (Note 2), however, makes an important point in regard to teaching adaptive skills: "If the basic skills we have identified [i.e., adaptive skills] are, in fact, to become characteristic of the student's post-educational behavior, his or her educational experience must be heavily and consistently salted with demands for their exercise" (p. 17). An example might be the use of elective curriculum decisions made *by students* as occasions for the development or practice of adaptive skills.

The "futures" of work may make learning highly specific job skills prior to beginning a new job inappropriate. If people change jobs frequently, or the content of many jobs changes frequently, the adaptive competencies and the more broadly transferable generic skills (especially learning-to-learn skills combined with generalizable concepts and processes that pertain to occupational *clusters* rather than to particular *jobs*) may be the most important to have. Once hired on the basis of an overall ability to perform work in that occupational cluster, specific task-performance skills and knowledge could then be learned, on the job or in company training programs set up specifically for those purposes. This may not be practicable in every industry, but problems with school-to-work transitions (e.g., "the dumb s.o.b.s have certificates saying they learned how to do this work—so why can't they do it *here*?") have generated national concern (i.e., the minimum competencies movement), and in those industries characterized by high worker mobility and technological change, company-supported training programs for imparting job-specific skills to workers who already have general transferable skills and adaptive competencies may become a necessary practice.

The role of general or vocational education in such a future will be quite different from what it currently is. As Woditsch put it, educators will have to "distrust efforts to 'fit' students to futures, and groom each student for an unforeseeable consummation" (Note 2, p. 18). An enormous alteration in many philosophies of teaching would be necessary in such a future of education.* Quoting Woditsch again: "Possibly no generation will ever find satisfaction in saying to its heir, 'I'm not sure what is best for you, but here are some abilities you can use in pursuing what is better' " (Ibid., p. 20). Resistance from educators, the public, and many industries is inevitable, and presents a powerful—and potentially overwhelming—obstruction in modifying formal education to teach adaptive skills, knowledge, and attitudes explicitly.

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* It may be most effective to teach adaptability in elementary and secondary schools by practicum. This implies that school systems would formally give up some of their control over the schools to students—an unlikely occurrence.

Counseling and Assessment for Occupational Adaptability

Career counseling and assessment practices are inevitably bound up with the predictive quality of the models or theories on which they are based, and because the model of occupational adaptation presented in this paper was devised with description rather than prediction as its main objective, its current applicability to counseling and assessment of occupational adaptability and related issues is tentative. What, however, would be the implications of being able to assess the occupational adaptability of individuals in terms of vocational or career choices and decisions, matching people and organizations, measuring a person's relative adaptability, identifying and giving counsel about the adaptive requirements of particular work-related problems or the prevention of problems? What would counselors be able to do to help people adapt in work that they might not have been able to do, or do as well, before? Moreover, how would someone go about assessing occupational adaptability, for whatever purpose?

In that the model has succeeded in expanding and systematizing what is known about occupational adaptability and occupational adaptational processes, some counseling benefits may accrue. An appreciation of the kinds of subtle factors involved in stimulating adaptive responses, as well as a better understanding of the processes and factors involved in selecting, implementing, and evaluating the actual responses, may be useful in aiding counselors to pinpoint sources of problems—such as unnoticed or previously dismissed factors in the situation or inadequate or inappropriate skills, attitudes, knowledge, procedures, or interpretations on the part of the adapting individual. Also, an understanding of the basic kinds of adaptive approaches (styles) an individual might use in work situations, along with some knowledge of the particular adaptive situation, may permit the counselor to make suggestions about "best bet" options that a particular person might have. The counselor might also be able to diagnose what additional adaptive skills or knowledge might be needed in the situation. Perhaps a different set of adaptive competencies are needed by those who want to initiate change than by those on whom it is forced.

Both career and job counseling practices depend to some extent on being able to use assessment instruments and techniques to diagnose or predict aspects of worker-work interrelationships. There is a substantial need for such instruments or techniques to: (a) assess adaptive outcomes; (b) identify the probable sources of adaptive failures; (c) diagnose individuals' (or groups') relative adaptive potential, adaptive competencies, and overall adaptive style; and (d) predict the likely congruencies between individuals' (or groups') adaptive capacities and the adaptive demands of specific vocations, work organizations, or work situations. Moos (1974) reviewed instruments and techniques for the assessment of general adaptive behavior, but no extant instruments or assessment techniques appear to address the issues of assessing *occupational* adaptability listed above. Some extant instruments or techniques may be modifiable for such needs, but that work must be addressed by future research efforts.

There could be considerable value in developing instruments or techniques by which individuals could identify and diagnose their own adaptive potential and their own adaptive options. One self-assessment technique, aimed at identifying satisfaction-related skill attributes in order to guide individuals in making career changes (Columbia University's DIG Program), was recently reviewed and evaluated by Wiant (1979); it may have implications for assessing personal occupational adaptability as well.

Counseling and personal adaptive decision making is not the only area where assessing aspects of occupational adaptation is important. If teaching adaptive competencies is to become an explicit part of any curriculum, educators must be able to assess the levels of mastery that students achieve.

Progress toward this goal is discussed in Knapp's (1979) review of traditional and nontraditional assessment techniques, as well as in Springer's (1979) presentation at a recent symposium on occupational adaptability and career futures (Ashley, Laitman-Ashley, & Faddis, 1979).

Limitations on Improving Occupational Adaptability

Many of the factors that limit the teaching or measurement of occupational adaptability present practical, systemic problems, but a number of conceptual problems also limit it. A major one is the effect of time on adaptability, or on adaptive responses. It may be very difficult to determine, longitudinally, which factors are potent in stimulating a set of adaptive responses, or to pinpoint which adaptive responses might be responsible for long-term adaptive outcomes. Also, as noted earlier, occupational adaptability is never completely mastered. Adaptive demands vary not only from situation to situation for a person, but across age and stages of life.

It is patently impossible to teach anyone how to be maximally adaptive in all situations, and it is probably not practical to try to develop one "best" set of rules or guidelines by which all individuals might be expected to be empowered to make "best bet" adaptive response choices. Situational determinants, especially those in crisis situations, may dramatically affect not only an individual's relative capacity to draw from his or her usual adaptive repertoire, but may stimulate highly uncharacteristic responses. This may be seen in cases where extreme pressures cause "sterling citizens" to resort to criminal activities, or, in a positive vein, where normally passive people take command in emergency situations and perform heroic rescues. Individual adaptability is elusive, variable, and full of surprises. Lazarus (1979) cautions:

> We mustn't get magical in our thinking about [adaptive] flexibility, or suppose we'll find people who are always able to manage optimally. . . . The concept of competence does not imply that a person who is skilled, able, and flexible will always be able to master every situation or handle every stress effectively. Skills that work superbly in one situation—say, as a supervisor—may render a person inept in others—say, in intimate relationships. (p. 60)

Still, much can be done, through effective teaching, counseling, and measurement of occupational adaptability, to "give people confidence in their ability to change and to learn, and to behave in different ways" (Springer, 1979).

Summary: Improving Occupational Adaptation

A "maximally adaptive person" is one who ideally is able to choose and implement the most practical and effective adaptive response for any given situation, drawing from a broad repertoire of adaptive competencies in the Reactive, Active, or Mobile styles (i.e., has a Flexible style) and, when appropriate, is able to generate and implement innovative behaviors as well. Because adaptation is a continuing, dynamic process, the maximally adaptive person keeps long-term as well as immediate consequences in mind when selecting adaptive responses, and accepts the necessity of some compromises, delays, retreats, and occasional failures in adaptive efforts. In addition, the adaptive person has a repertoire of generic skills and knowledge, and the capability to transfer them across contexts and use them as bases upon which to build job-specific skills and knowledge. Both transferable skills and occupational adaptability are vital to establishing, maintaining, or improving the quality of work life.

Basic adaptive styles and attitudes appear to be learned in childhood and adolescence, but the adaptive behavioral repertoire is continuously developed and expanded through experiential learning. The more innovative a behavior is for a given person, the less likely that it will be learned without deliberate effort and instruction. Some adaptive competencies relate to certain ages or stages of life, and may not be developed—or be able to be learned—until there is a call for them. Most people appear to learn occupationally adaptive competencies informally, often not until the people are actually in the work world—if then.

Work organizations, union and professional groups, and traditional and nontraditional educational systems (in or beyond the postsecondary level) appear to be in potent positions to develop or improve occupational adaptability in individuals. Little is currently known about how adaptive competencies may be taught, though some efforts are underway in this area (see Miguel, 1977; Selz & Ashley, 1979; Short, 1979). Disagreement exists as to whether adaptive competencies should be taught in specific curricula, or should be embedded in the regular curricula. Career education offers an extant area for explicit teaching of some adaptive competencies, but there is some question as to whether most of the adaptive competencies and attitudes can effectively be taught apart from general education.

Since it is not possible for all skills, knowledge, and attitudes to be taught, in any curriculum, in a lifetime, how many of which skills et al. should be taught in what context is a significant concern. If people change jobs frequently, or the content of many jobs changes frequently, the adaptive competencies and the more broadly transferable generic skills (upon which job-specific skills can be built, as needed) may be the most important to teach. The roles of general or vocational education in such a future may have to be modified greatly to meet workers' needs.

Many benefits could accrue in the areas of career or job-related counseling and assessment through a better understanding of the dynamics of occupational adaptation, including improved vocational counseling, better matches between people and organizations (in terms of each other's adaptive styles and flexibility), diagnosis and possibly prevention of adaptive failures in work, and diagnosis of individual adaptive deficiencies with a view toward remediation. Instruments and techniques exist for assessing general adaptive behavior (see Moos, 1974), but none have been found as yet that assess *occupational* adaptation (at least as conceived in this monograph), though some may be modifiable.

The next chapter offers a brief discussion of the implications for individuals, work organizations, and society in general in improving the occupational adaptability of individuals.

CHAPTER VII.

IMPLICATIONS OF IMPROVING OCCUPATIONAL ADAPTABILITY

There may be advantages to finding ways to develop and improve occupational adaptability, for individual workers, for work organizations, and for society in general. Concurrent with the advantages arise inevitable problems, and these caveats are discussed in this section along with the advantages. In conclusion, directions and suggestions for much-needed research in the area and for refining the descriptive model are given.

Advantages for Individuals

As has been discussed throughout this monograph, it is probable that the structure and content of work and the relationships between people's work lives and private lives in the future will be subject to continuing change. These changes have been the specific focus of a number of researchers and theorists, such as Best (1973), Dunnette et al. (1973), O'Toole (1972, 1977), and others. Because people have the potential to adapt to changes, resist them, or make them happen for their own advantage, developing versatility and proficiency in dealing with change in work and in life—that is, developing effective occupational adaptability—should enable a person to see and understand his or her work options, learn as he or she goes through life, and improve the selection of adaptive responses in varying situations.

Improved occupational adaptability may be particularly potent in dealing with common, but knotty, work-related problems, such as:

- choosing a personally meaningful and rewarding vocation/occupational area/career
- recognizing personally compatible work organizations and/or work settings
- identifying and expressing your adaptive as well as job-specific capabilities and needs when interviewing for a job
- learning the ropes and fitting into a new job or career
- finding ways to personalize your job
- dealing with changes in your job, such as using new equipment or procedures, working alone or with a team, juggling more or different tasks or responsibilities, working with a new supervisor or management system, getting used to a change in the job site or working conditions, etc.
- earning and negotiating for raises, promotions, transfers, changes in personal autonomy or responsibility, in company policies, etc.
- recognizing and doing something about your deficiencies in personal and work-related competencies, such as learning new job skills, better ways to deal with stress, how to get along with coworkers or supervisors, how to make allies, how to express your ideas or opinions, and so forth
- recognizing your personal adaptive strengths and weaknesses and choosing your "best bet" options in handling work-related problems

- making moves between jobs and careers (voluntarily or by necessity)
- moving in and out of the paid work force (viz., going back to school, taking a break from working in order to seek personal enrichment, raising a family or caring for a loved one, recovering from illness or injury, etc.)
- coping with and surviving through economic or other reversals that require you to do work that does not use your preferred skills or that you find distasteful

Having occupational adaptability competencies should prove highly valuable to individuals making decisions about job choices. Knowing one's adaptive style and behavioral repertoire (i.e., one's adaptive strengths and weaknesses) could have a positive effect on choosing: (a) career types (some career-lines or vocations allow more adaptive "elbow room" than others; (b) organizations to work for (the "elbow room" notation applies here too); and (c), work involvement (full-time, part-time, lifelong career versus multiple careers, job-sharing, job rotation, entrepreneurship). Adaptive competencies are equally vital to successful entry into kinds of work that are, in societal terms, nontraditional—such as women choosing to become engineers (see Laitman-Ashley, 1979), or men choosing to become airline flight attendants.

It may not always be possible, of course, to avoid or remedy situations of misemployment; forces beyond an individual's control may not make "the job of your dreams" available. However, a judicious application of transferable skills and adaptive responses from among the three major styles proposed in the model should enable a person to manage a comfortable compromise between the demands of work and the person's own work-related needs and desires.

Because work is an important—and in many cases, central—element in many people's total life adjustments (Lofquist & Dawis, 1969), the degree to which a person feels fulfilled and in control of his or her work life (i.e., the relative degree of occupational adaptation achieved, at that given time) can have enormous influence on his or her life in general. Reporting on a study by Friedlander (1966), Argyris notes that

> . . . work and the work environment provide greater opportunity for satisfying interaction than do nonwork factors. The combined values of the work content and work context, for example, exceeded to a significant degree that of church-related activities and educational factors. (1973, pp. 149-150)

In addition, it is well documented that work problems tend to spill over from the job to the home (O'Toole, 1972), and vice versa. Because most work situations involve a variety of formal and informal relationships and institutionalized solutions to work-related adaptive problems (e.g., union activity, filing grievances), work may be one area of a person's life in which he or she can *do* something positive to improve his or her overall self-esteem. Improving individuals' occupational adaptability through explicit educational experience may help people deal with adaptive needs in their private lives as well.

Advantages for Work Organizations

The satisfactoriness of workers (usually in terms of productivity, profitability, and minimal managerial requirements) will probably continue to be the major criterion by which work organizations in a capitalist system hire, move, reward, or fire employees. However, it is expected that "there will be increasing psychological and social pressures with organizations [and social and possible legislative pressure from outside, as well as competition from rival organizations for productive workers] to minimize loss of humanity, creativity, and morale" (Bass & Ryterband, 1973, p. 138). A better understanding of the adaptive potential of individuals, if combined with a work organization's assessment of its own adaptive atmosphere in terms of its flexibility and responsiveness, may be vital to the overall effectiveness of its hiring, training, task distribution, reward distribution, promotion, and firing practices.

Organizational hiring practices generally seem to overlook potential problems stemming, at least in part, from mismatches between workers' adaptive styles and the adaptive requirements and degrees of flexibility built into the work organization's policies and practices; instead, the focus in hiring is mostly on job-specific credentials and some minimally-acceptable level of interpersonal skills assessed in a job interview. Adaptive congruence, however, can have a powerful influence on task performance:

> An individual's functional skills will ordinarily be most efficiently applied and utilized when his [sic] adaptive skills are closely attuned to specific organizational conditions and requirements; they will be least effective when adaptive skills are incompatible with specific organizational demands. Hence effective worker performance and good job training and career development demand an alert organizational system sensitive to the adaptive as well as functional and specific content skills of employees, and most important, a readiness to accommodate its own nature and functioning to the adaptive capabilities and/or potentials of its employees. (Dunnette et al., 1973, p. 103)

Pratzner (1978) also notes that "significant differences in the technical conceptual domains and structures were found between flexible and inflexible workers" (p. 18). Workers whose adaptability is high will be more likely to learn what they need to know to do their jobs, especially if the task demands or immediate work environments change from the way the worker has performed previously.

Improving the occupational adaptability of workers may encourage the development of unrealistic expectations of work and may encourage people to change jobs frequently, but this is not necessarily so for everyone. Assuming that people's job-seeking systems and organizations' hiring practices could result in better initial congruence between workers and jobs if adaptability were a recognized concern, people working in jobs that thus approximate their work/life needs and desires may be more willing to adapt in the valued situation, should it change, than to leave it. Strauss notes that "... people on challenging, complex, varied jobs which permit self-direction tend to show relatively high self-esteem, to be less authoritarian, more intellectually flexible, more willing to accept change, and to have less mechanistic standards of morality" (1974, p. 92). In addition, "an organization that is having problems to survive may legitimately call on the participants for sacrifices" (Argyris, 1964, p. 31), and the more occupationally adaptive workers—assuming that the company has been reasonably responsive to their previous adaptive needs—may be both more willing and more able to make such sacrifices (e.g., people with high occupational adaptability will be better able to meet job demands imposed by technological and social changes; see Dubin, 1973).

Some organizations, especially those in "fast track" kinds of business where workers are needed on what amounts to a contract basis, would find obvious value in improved occupational adaptability of employees. In such organizations, the expectations are that workers will come into the job, adjust to it quickly, and perform in an efficient and self-motivated fashion (essentially as though they were entrepreneurs hiring themselves out to the organization, rather than being employees, per se); and, when the work comes to an end, they are expected to find their own new employment opportunities and depart the organization with a positive attitude toward it and their work experience there. (Examples of such kinds of work might be construction work, consulting, research, etc.) Improved occupational adaptability should allow workers to optimize their contributions to such organizations (as well as the personal rewards derived from the work) regardless of the duration of their stay.

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It should be possible, through the application of a variety of strategies (see Chapter IV, pp. 96-103, for examples), for work organizations to become more responsive to workers' adaptive needs. Blanket personnel policies toward this end may not be adequate, however, particularly where the workers do not value the kinds of changes that increased participation, responsibility, etc., may entail. The ways in which workers respond to organizational attempts to motivate them are intimately linked to the individuals' values regarding work and work/life balances. Many workers may need to improve their adaptive competencies (and experience the positive consequences of the improvements) before they will be able to view job redesign or other organizational adaptive changes as *challenges* rather than as *threats*. To reap the benefits of higher occupational adaptability in workers, organizations should seek better ways of screening job applicants for congruent adaptive competencies, and should examine the organization's extant socialization and training systems to determine how and where improved occupational adaptability competencies might be imparted to and utilized by its workers.

Advantages for Society at Large

"The total adaptability of a system . . . is the largest number of goals or values it can move toward simultaneously without conflict between the goals or their means of achievement" (Harvey, 1966, p. 7). That is, the adaptability of a society depends on the efficacy and variability of the adaptive solutions it provides—or allows—for its members, because the adaptive potential of individuals "in turn define the community's ability to judge and pursue its purposes" (Woditsch, Note 2, p. 12). Richard Cournelle adds, "It is becoming pretty clear that a society stays alive when it stays adaptable, and not because people try to repeat established procedures with increasing efficiency" (1975, p. 88). The ability to adapt by creating individually innovative adaptive responses should, therefore, be as important an objective in improving adaptability as the ability to use institutionalized adaptive solutions.

Some of the adaptive needs of a society—and, in particular, of American society—may be more readily met by improving the adaptive capabilities of its workers. For example, greater individual occupational adaptability should help individuals and society deal more effectively with:

- changes in local or national economies; for example, more adaptively creative people might be expected to cope with the effects of a recession—or even depression—in many innovative ways, such as using some of their generic skills to build new skill areas to meet the changed employment needs, or creating their own jobs (in the Depression of the 1930s, many people turned their home-repair skills into their means of livelihood), or coping with the stress and disappointment of losing financial security or personal ambitions by substituting family interests or hobbies or indulging in a rich fantasy-life, etc. The saying, "Smart people don't starve" might more appropriately become "Adaptable people don't starve."
- employability problems; for example, many "functionally incompetent" people or chronically unemployed people are unable to hold jobs *not* because their values necessarily demean working, but because they lack vital occupational adaptability competencies, such as learning to learn, coping effectively with authority, transferring their job-specific skills to new contexts, making friends and allies in the work setting, learning the ropes when first entering a job, and so forth.
- problems of misemployment; for example, many persons who are underemployed (i.e., are overeducated for the kinds of jobs they can get) would watch for ways to move up in an organization or to find a better job or different career that makes better use of their education and/or abilities; if that were not possible (and it wouldn't be possible for

everyone who's underemployed—there are only so many extant jobs in higher levels), creatively adaptive workers in jobs that do not make use of their education or skills would look for ways to work their special skills into the jobs, to personalize the jobs for greater enjoyment, or to find other personally rewarding ways to use the abilities; failing that, adaptable persons should be able to cope with disappointments by using intrapsychic defenses, or lowering their aspirations, or transferring their locus of enjoyment from the actual work to the people in the work environment, etc.

- changes in technology, the obsolescence of some jobs and the creation of others; for example, an increasing emphasis on appropriate ("small is beautiful") technology is creating new jobs in such areas as solar heating, trash and waste recycling, and microelectronics production; persons who are occupationally adaptable should be able to train or retrain to work in such industries—and to keep up with the constant technical innovations that characterize them.
- transitions between work and nonwork; for example, changes in the American work ethic tend to value leisure activities over working, but increased adaptability in workers might help to blur the sharp boundaries between work and nonwork, making experiences gained in the pursuit of leisure more valued as real, transferable skills and knowledge than they are currently, and making work more personalized and more congruent with people's own life goals and values—that is, more enjoyable, and less like "work."

Institutions that prepare individuals for work and for life must respond directly to people's adaptive needs. "The problem of developing competencies a step above those required to 'get by' is much too pervasive to be considered remedial" (Woditsch, Note 2, p. 8). However, this would require modifying—and possibly revolutionizing—philosophies both of extant educational institutions and practitioners of education (this includes institutions that train the teachers themselves). Questions of responsibility, access, and equity in the teaching of adaptive competencies would have to be addressed. Finally, the seriousness of the educational goal, "to enable each person to develop to his or her full potential," would have to be revitalized, and the tendency of education to select out the "gifted and talented" rather than to help *all* people improve their adaptive potential would have to be exposed and rectified.

While improving individuals' occupational adaptability (in the sense of the "maximally adaptable person" discussed in Chapter VI) could be extremely valuable to individuals and to the "health" of society in general, it is important to point out that it is not some kind of cure-all. It is possible that adaptability could run rampant in a society and eventually lead to instability. Too, there will always be trade-offs. Not every society or work environment will value—or be able to afford to be responsive to—the expectations that such a highly adaptive worker may develop. Nor would successful adaptation to change be possible to—or valued by—all persons or all segments of a society. Families, ethnic subcultures, and some communities may place a higher value on cohesiveness and stability. Teaching for improved adaptability in such groups would probably have to de-emphasize Mobile behaviors, which would increase conflict, in favor of Reactive or Active behaviors.

Finally, it should be remembered that adaptation is intrinsically cyclical and unending. As Mechanic explains,

> . . . mastery of stress is not a simple repertoire, but an active process over time in relationship to demands that are themselves changing. . . . Adaptation itself creates new demands on man [sic] that require still further adaptations in a continuing spiral. (1974, p. 35)

In addition, the effects of adaptation may be only temporary. Adaptation is seldom fully realized, and tends to be transient when it is; more often it is an interim compromise between optimum conditions for growth on one hand and eventual stagnation on the other. This holds whether the adaptation is an individual's or a society's.

Summary of Implications and Directions for Further Research

Improving the occupational adaptability of individuals should enable people to recognize, generate, and select more effective and personally meaningful responses to situations in work (or in balancing work life and personal life) that require personal adaptation. Greater personal occupational adaptability may be most valuable in choosing vocations or careers, finding rewarding jobs and job situations, moving into and/or between jobs, personalizing jobs, and changing careers. It is expected that improving adaptation in work will also help people deal with adaptive needs in their private lives, both in their indirect effects and as sources of adaptive competencies whose component skills may be transferred to affect the other aspects of people's lives directly.

The benefits of improved worker adaptation for work organizations seem to depend on the awareness and responsiveness of organizations to workers' adaptive styles. Where organizations seek to match the adaptive competencies of workers to the adaptive requirements and atmosphere of the job and the organization (especially through hiring, socialization, and training practices), an increase in "humanity, creativity, and morale" may be expected. This may have a positive effect on productivity as well. More adaptable workers may also be more apt to learn new procedures readily, to deal effectively with changes in the context of the job, and to be more willing and able to deal with organizational emergencies (such as temporary organizational financial problems that require sacrifices on the parts of the employees).

Some problems with improving individual adaptability are that some people may develop unrealistic expectations of work, or may tend to move from one job to another, seeking some kind of employment "Shangri-La." Mobility in itself is not necessarily maladaptive, however, and may in fact fit the needs of some kinds of work organizations, particularly those in need of short-term or medium-term workers, such as the construction industry.

As the benefits of improving occupational adaptability accrue for individuals and for work organizations, the total adaptability of a society should be enhanced. The ability of individuals to make effective use of institutionalized adaptive responses is important, but their capacity to *invent* adaptive responses may be even more so. Extant educational and training philosophies and practices do not address many of the adaptive competencies, however, and may require extensive rethinking. In addition, improving the adaptive competencies in all areas (Reactive, Active, and Mobile) may not help all individuals or all segments of a society deal with all of their problems. Adaptive efforts always involve trade-offs and are never fully or permanently achieved, and improved adaptation, at least in the sense of a "maximally adaptive person," is not a panacea.

Regardless of the problems, efforts toward improving the occupational adaptability of individuals should prove beneficial, and the descriptive model offered in this monograph is a first step toward understanding how such improvements might be made. The model itself suggests more heuristic research directions, particularly in investigating what are the *specific conditions* that affect, permit, increase, or accelerate occupational adaptation. For example, important questions include:

- What are the patterns of individual antecedents (adaptive history, etc.) that affect adaptiveness?
- What kinds of precipitators influence or cause person-environment incongruities in work? What are common, important patterns?
- What are the patterns of potent transactions that increase, accelerate, affect, or permit effective adaptation?

- What kinds of (patterns of) consequences can result from different adaptive strategies? What patterns of consequences occur between pertinent microsystems (e.g., between the person's home life and immediate work environment, between the training context and the job context, etc.; see Bronfenbrenner, 1977, regarding microsystems and developmental ecology) as a result of adaptive efforts in one or more of them?

It will be necessary to validate the model and to examine its predictive potential for further research.* The content of the styles categories (and the style categorizations themselves) require validation and possibly revision; the content of the lists given in Table 2 is undoubtedly far from comprehensive, as well. Alternative models of the adaptive process should be sought, especially in the realm of automatic or intuitive response selection, in the recent literature. The need for "mid-level" theory to bridge the abstract and the extremely specific ideas on occupational adaptability—e.g., what "coping with change" means to a worker who has just been passed over for a promotion—is also needed.

Discerning exactly where and when and how occupational adaptability competencies may be amenable to development or improvement is a vital area for research. There is a need to acquire a better understanding of the psychological limitations of individuals' adaptive capacities. We need to know how overall occupational adaptability can be characterized and identified in individuals, and how it can be measured. A more thorough and better organized classification of the attitudes, skills, knowledge, and personal characteristics that contribute to each of the work-related adaptive behavioral responses is needed. We also need to know to what extent people's adaptive potential does or does not fluctuate, and why; this has important implications for the development of diagnostic/assessment instruments.

The need to address policy-related issues is essential. We will need to determine what the practical avenues and leverages are for incorporating teaching for occupational adaptability into extant educational or training programs, or for devising alternative approaches to teach it. Systemic and individual resistance to the potentially necessary changes in institutions and values will have to be taken into consideration. Other related questions include: whether all workers can profit from improved occupational adaptability; whether adaptability can be improved in everyone; how we can identify the kinds and limits of adaptability, and avoid running roughshod over individuals' own limitations; who the people are who are likely to be rewarded or punished for making use of improved occupational adaptability (equity issues come in here); and what effects training for adaptability will have regarding necessary training for occupational specialization. Finally, it is important to try to determine what the implications for improved occupational adaptability might be for third world nations and cultures with work ethics different from our own.

The "future" may be thought of as a "domain of possibilities"—not a world that will be forced upon us, but a world that we ourselves create. By recognizing our adaptive *options*—or constructing new ones—we may increase the probabilities that the future we most desire will be the one that evolves. Understanding human adaptation—in work as well as in other human contexts—is a first step toward improving people's adaptive options—and adaptive creativity. As George Bernard Shaw wrote,

> . . . the reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man [sic].

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* Considering the complex milieu in which occupational adaptive efforts take place, Bronfenbrenner's (1977) approach to "ecological" experimentation—which takes the view that "to understand something, try to change it"—may be an apt model for such research.

CHAPTER VIII
EXECUTIVE SUMMARY

The purpose of this paper is twofold: to review and synthesize what is known about occupational adaptability, and to propose a heuristic model of the process(es) of adaptation in work. Because most theory and research on working addresses issues of adaptation only indirectly, and because adaptive efforts in work cannot be adequately understood outside of the larger context of people's adaptations in their overall lives (both in terms of context and life stages), the literature search also includes knowledge and ideas from all of the disciplines concerned with human adaptation: biology, physical and cultural anthropology, sociology, and the psychologies.

In the broadest sense, adaptation is the response of an organism to conditions affecting its actual or potential survival or growth. Change, or the possibility of change, seems to be central to any adaptive stimulus. Adaptation involves transaction between an individual and his or her environment, and theories of adaptation organize the potent factors into person/environment categories. Factors affecting adaptation in the work context, culled from industrial, occupational, and organizational psychology and sociology, and from career counseling and educational research, fall into three major categories:

- *Person dimension:* Agent = self; Factor areas = subjective and objective factors
- *Work Environment dimension:* Agents = coworkers, clients, managers, union; Factor areas = occupation and job content, immediate work environment, and organizational factors
- *External Environment dimension:* Agents = government, agencies, family, friends, media, educators, counselors, peers, consumers, competitors; Factor areas = economic conditions, sociocultural trends, government regulations and legislation, educational institutions and practices, climate and geographic location.

Of particular relevance to adaptation in work is the literature on work-related competencies (included as objective person factors), including transferable skills and adaptive abilities. These constitute the overall potential a person has from which he or she may draw in order to respond to adaptive stimuli in work life. Transferable skills are mathematics, communications, interpersonal reasoning, and manipulative skills that can be applied—directly or with some modification—to tasks in more than one job or context. The more fundamental a skill is, and the more proficient a person is in using it, the more transferable it will be across contexts.

Adaptive abilities are used to deal with changes in worker-work interrelationships, and, linked with adaptive knowledge, attitudes, and certain personal characteristics, result in adaptive behavior. Adaptive abilities include skills in areas of: transfer skills, learning-to-learn skills, change skills, energizing skills, coping skills, self-assessment skills, anticipatory skills, and special mobility skills, as well as cognitive skills (which overlap with the reasoning skills in the transferable skills categories). Adaptive abilities exist with and are equally important as an individual's repertoire of transferable skills and level of mastery. Adaptive competencies (e.g., hunting a job, dealing with pressure on the job, etc.) are composed of clusters of adaptive behaviors that have been developed to a level of mastery sufficient to achieve reasonable reliability and efficacy.

Behavior appears to be the primary method by which adaptation occurs, and people tend to behave within certain discernible patterns when dealing with situations requiring adaptation. These behavioral patterns may be categorized as Adaptive Styles:

- Reactive — adapting yourself to the environment
- Active — adapting the environment to yourself
- Mobile — adapting by changing the scene (moving to a different environment).

Most people tend to use a mixture of behaviors from among the styles in adaptation, and the style categories are used to describe general personal tendencies rather than rigid behavioral patterns. In work, the Reactive style is most often used by individuals and the Active style by groups. Most individuals may expect to use some behaviors from each of the styles at various points in their work lives.

The achievement of effective adaptation depends not only on the behaviors used, but on the Adaptive Quality of the behavior—its efficacy and consequences. The Quality of an adaptive behavior seems to be situationally dependent, and a behavior may be appropriate for use in one situation and not appropriate in another, or may be available and effective for one person or group and not for another.

A model of occupational adaptation is presented that is based upon the literature review and the author's work with the Transferable Skills and Occupational Adaptability Program. The model, which describes the factors and dynamics of adapting, uses many of the same concepts used by behavioral scientists, the difference being its focus on the context of work. It is based on three main assumptions:

- that adaptability is distinguishable as a set of behavioral competencies;
- that people differ in the array and quality of their adaptive competencies; and
- that an individual's adaptive potential does not guarantee a maximally adaptive response, but rather may vary between given situations or over points in time.

An outline of the model is presented. The author points out that although occupational adaptability is an individual's adaptive potential, occupational adaptation itself is a continuing, dynamic set of processes by which workers seek to establish, maintain, or repair equilibrium or congruity with the work environment, or to improve the overall quality of their work life. The processes of adaptation involve a sequence of linked occurrences:

1. *perception* of a worker-work incongruity (or threat of incongruity, or opportunity to improve extant congruity) that acts as a stimulus to possible adaptive arousal;
2. *emotional evaluation* (which may not occur on a conscious level) of the adaptive stimulus in terms of the necessity of further response and of the nature of the stimulus as a threat or a challenge;
3. *adaptive response selection,* a process that may be primarily intuitive or primarily cognitive; if the latter, three activities are involved: (a) situational clarification and analysis, (b) diagnosis and problem-solving, and (c) selection among options;
4. *implementation of behavioral response(s)* selected from the individual's adaptive response repertoire or invented specifically for the situation;
5. *evaluation of outcomes* of adaptive behaviors in terms of the individual's perceptions of short-term and long-term efficacy in affecting the worker-work incongruity and in terms of expected and unexpected consequences;
6. *termination, continuation, or modification of adaptive responses* based on evaluation of outcomes.

A behavioral profile of a "maximally adaptive person" would include competencies in:

- adapting the self to the environment (Reactive behaviors)
- adapting the environment to the self (Active behaviors)
- moving from one environment to another (Mobile behaviors)
- deciding when to do something and when to do nothing
- selecting which behaviors from the style categories are the "best bets" under the circumstances
- inventing personally innovative adaptive responses when appropriate
- understanding the necessity of trade-offs and occasional delays or retreats in the continuing process of integrating personal work and life adaptations.

The development or improvement of individual's occupational adaptability is seen as vital to more effective worker-work relationships as well as better balances between people's work lives and other areas of life, and it is suggested that the skills, knowledge, and attitudes important to occupational adaptation be taught as part of secondary and/or postsecondary education and training.

Advantages of improving the occupational adaptation of individuals are expected to accrue for workers themselves, for work organizations, and for society in general, including:

- improved job and career choices that should enhance individuals' life and work satisfaction
- improved productivity and profitability through better worker/job congruence, plus increased humanity, creativity, and morale in work
- improved adaptability for society in general through the enhancement of opportunities for members to develop their potential in work and life.

While improved occupational adaptation is not a panacea, and trade-offs are inevitable, the expected benefits should be an impetus to conducting further research in the area. More needs to be learned about:

- what specific conditions affect, permit, increase, or accelerate effective occupational adaptation
- where, how, and when occupational competencies may be taught
- how individual adaptability may be assessed
- what are the important policy issues related to improving individual occupational adaptation, and what are the options.

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168

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APPENDIX A

EXAMPLES OF TRANSFERABLE SKILLS LISTS

COMPOSITE LIST OF TRANSFERABLE SKILLS*

Intellectual/Aptitudinal

Communicating
Problem Solving
Analyzing/Assessing
Planning/Layout
Organizing
Decision Making
Creativity/Imagination/Innovation
Problem Identification/Definition
Managing One's Own Time
Basic Computation
Logical Thinking
Evaluating
Ability to Relate Common Knowledge or Transfer Experiences
Coping with the Labor Market and Job Movement
Understanding Others
Synthesizing
Marshalling Available Resources
Accommodating Multiple Demands
Judgment
Foresight
Trouble Shooting
Job Awareness
Mechanical Aptitude
Typing
Accounting
Implementing
Self-Understanding, Awareness, Actualization
Situational Analysis
Assessing Environments/Situations
Understanding Human System Interactions
Organizational Savvy
Conceptualization
Generalization
Goal Setting
Controlling
Quantitative Thinking
Dealing with Work Situations
Finance
Tool Usage
Bookkeeping
Artistic Ability
Business Sense
Tolerance of Ambiguity

Interpersonal

Working with, Getting along with, or Relating to Others
Managing, Directing, or Supervising
Empathizing, or Being Sensitive to Others
Teaching, Training, or Instructing
Counseling
Motivating
Gaining Acceptance, or Building Rapport
Helping, or Cooperating
Cultivating Cooperation
Selling
Accepting Supervision
Delegating
Instilling Confidence
Team Building

Attitudinal

Diligence, or a Positive Attitude toward the Value of Work
Receptivity/Flexibility/Adaptability
Determination/Perseverance
Acceptance/Appreciation/Concern for Others
Responsibility
Willingness to Learn
Ambition/Motivation
Self-Confidence
Self-Discipline
Pride
Enthusiasm
Patience
Self-Actualization
Assertiveness
Honesty
Loyalty
Reliability
Risk Taking
Compromising
Kindness

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* Wiant, A.A. *Transferable skills: The employers' viewpoint* (Info. Series No. 126). Columbus: The Ohio State University, The National Center for Research in Vocational Education, 1977.

SUMMARY OF GENERIC SKILLS*

Mathematics Skills (11 areas; 34 skill areas; 192 sub-divisions of skills)

1. *Whole numbers:* Read, write, and count; add and subtract; multiply and divide; word problems; round off
2. *Fractions:* Read and write; add and subtract; multiply and divide; word problems
3. *Decimals:* Dollars and cents; read, write and round off; multiply and divide; add and subtract; word problems
4. *Percent:* Read and write; ratio; proportion; percentage; rate; principle
5. *Mixed operations:* Equivalents; order of operations; word problems; quick calculations; average
6. *Measure:* Read graduated scales; read verniers; time; weight; distance; capacity
7. *Metric measure:* Weight; distance; capacity; weight conversion; distance conversion; capacity conversion
8. *Geometric figures:* Forms and figures; angles; draw, sketch; perimeters; areas; volumes
9. *Drawings and graphs:* Read graphs; read scale drawings; read assembly diagrams; read schematic drawings; draw graphs; measure from scale drawings; draw to scale
10. *Algebra:* Single variable, open sentences; single variable, powers and roots; solve given formulas; integers and rationals; variables and expressions; two variable, open sentences; quadratics
11. *Calculations:* Logs; slide rule; trigonometry calculations; calculator

Communications Skills (7 areas)

12. *Words:* Plurals; prefixes, suffixes, and root words; contractions and abbreviations; dictionary; synonyms, antonyms, and homonyms; meaning and context; books
13. *Listen:* Literal comprehension; interpretive comprehension; evaluative comprehension
14. *Talk:* Pronunciation; diction and word choice; fluency; organization of ideas; ask 6W questions; give information and directions; use telephone
15. *Read I:* Literal comprehension; interpretive comprehension; evaluative comprehension
16. *Read II:* Forms, notes; letters or memos; charts and tables; manuals; Roman numerals X; Roman numerals XXX; Roman numerals M
17. *Write I:* Phrases on forms; sentences on forms; paragraphs on forms; sentences; paragraphs; short notes; take notes
18. *Write II:* Form letters; single paragraph letters; internal memos; business letters; information reports; recommendation reports; technical reports

Interpersonal Skills (7 areas)

19. *Attending behaviors:* Physical; cognitive; reactive; covert
20. *One to one conversation:* Elementary conversation; task focused conversation; express own point of view; personable conversation; persuasive presentation

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* Kawula, H.J., & Smith, A. DeW. *Generic skills: Handbook of occupational information.* Prince Albert, SK: Canada Manpower and Immigration Department, Training Research and Development Station, 1975.

21. *Group discussion:* Preparation; presentation of information or directions; control group decision making; group maintenance; participate in group discussion; respond to information or directions; persuasive presentation
22. *Oral presentations:* Preparation; factual information; listen, respond; conceptual; persuasive; reactive
23. *Instructional communication:* Establish training; instruction; demonstration; monitor; evaluate
24. *Supervisory communication:* Give directions; demonstrate; give praise; give discipline; prepare evaluation reports
25. *Interview/counsel communication:* Preparation; closed questions; open questions; confrontation; interview job applicants; negotiate

Reasoning Skills (9 areas)

26. *Obtain job related information:* Tools, materials, and equipment; methods and procedures; sequence; other information; theories
27. *Organize information:* Sort objects; sort data; rate; rank; develop classifications
28. *Estimate:* Time, weight; distance; area; capacity; cubic measures; costs
29. *Tasks:* Sequence; priority
30. *Objectives and methods:* Goals; activities; alternatives; criteria; priority; analysis; deduction
31. *Diagnosis:* Cause and effect relationships; possible problems; priorities; possible methods; probing questions; use senses
32. *Problem solving:* Relevant information; alternative statements; select statement; alternative solutions; select alternative
33. *Plan and coordinate:* Activities and sequences; outline plan; identify resources; estimate resources; critical activities; detailed plan; resource requisitions
34. *Implement work:* Monitor results; standards of quality; standards of quantity; standards of completion time; priorities of standards; authority and responsibility; update plans

REPORTS ON OCCUPATIONALLY TRANSFERABLE SKILLS

McKinlay, B. *Characteristics of jobs that are considered common: Review of literature and research* (Info. Series No. 102), 1976. ($3.80)

A review of various approaches for classifying or clustering jobs, and their use in (a) describing the elements of commonality involved when people make career changes, and (b) understanding better the concepts of occupational adaptability and skill transfer.

Altman, J.W. *Transferability of vocational skills: Review of literature and research* (Info. Series No. 103), 1976. ($3.80)

A review of what is known about the transferability of occupational skills, describing the process or the facilitators of skill transfer.

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A review of what is known about the range of occupation-related skills and characteristics that could be considered transferable from one occupation to another, describing those transferable skills which are teachable in secondary and postsecondary career preparation programs.

Ashley, W.L. *Occupational information resources: A catalog of data bases and classification schemes* (Info. Series No. 104), 1977. ($18.20)

A quick and concise reference to the content of 55 existing occupational data bases and 24 job classification schemes. Abstracts of each data base and classification scheme include such information as: identification, investigator, location, documentation, access, design information, subject variables, occupation variables, and organization variables.

Wiant, A.A. *Transferable skills: The employer's viewpoint* (Info. Series No. 126), 1977. ($3.25)

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Miguel, R.J. *Developing skills for occupational transferability: Insights gained from selected programs* (Info. Series No. 125), 1977. ($3.80)

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